

ANNUAL REPORT

2020



**Sanjay Gandhi Postgraduate Institute of Medical Sciences,
Lucknow-226014, U.P., India**



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**Sanjay Gandhi Postgraduate Institute of Medical Sciences,
Lucknow-226014, U.P., India**

Annual Report 2020

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Director's Message



It is with great pleasure to place before you the “Annual Report” of the Institute for the year 2020. The report incorporates all important academic, events, activities and achievements which had taken place and must find a place in the history of the institute. Departmental achievement as well as excellence achieved by individuals contributing handsomely to the development of the institute finds a place in this report. Our endeavor has always been to grow from strength to strength not only in infrastructure but also in patient care service and results. I am happy to share the moments of growth of the institute since its beginning. The ever-strengthening growth, activities, achievements of the institute departments, hospital activities & other allied departments reflected every year through “Annual Report” of the institute. The patient care, Teaching Research and training activities delivered and achieved by the department are directed toward the accomplishments of institute objectives.

I appreciate the efforts made by the committee entrusted the task of preparation of this annual report for the period 2020. I wish you all a healthy and safe 2021.

(Prof. R K Dhiman)

Director, SGPGI

INSTITUTE BODY MEMBERS, 2020

1. Sri Anup Chandra Panday, Chief Secretary, Govt. of U.P. and President, SGPGIMS, Lucknow
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14. Prof. S. K. Puri, Flat No. A-703, IorePur Apartment, New Hyderabad, Lucknow 02
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16. Prof. Rajeswar Dayal, Head, Department of Pediatric, SN Medical College, Agra
17. Prof. Abbas Ali Mehdi, Head, Department of Biochemistry, KGMU, Lucknow
18. Director General, Health Services, Government of India, Nirman Bhawan, New Delhi
19. Chairman, University Grant Commission, Bahadur Shah Zafar Marg, New Delhi
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21. Shri Raghvendra Pratap Singh, Member of Legislative Assembly (MLA), 101, Tilak Marg, Dalibagh Bahumanzila Mantri Awas, Lucknow-226001
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3. Dr. Rajnish Dubey, IAS, Addition Chief Secretary, Dept. of Medical Education, Govt. of U.P., Lucknow
4. Sri. Sanjeev Mittal, IAS, Additional Chief Secretary, Dept. of Finance, Govt. of U.P. Lucknow
5. Sri Amit Mohan Prasad, IAS, Additional Chief Secretary , Dept. of Medical Health & Family Welfare, Govt. of U.P., Lucknow
6. Dr. K. K. Gupta, Director General Medical Education, Govt. of U.P. Lucknow
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8. Prof. M. K. Mitra Ex. Head, Dept. of Medicine, King George's Medical University, Lucknow
9. Prof. S. P. Singh, Principal, M.L.N. Medical College, Allahabad
10. Prof. Ganesh Kumar, Principal, B.R.D. Medical College, Gorakhpur
11. Prof. Amit Gupta, Prof and Head, Department of Nephrology, SGPGI, Lucknow
12. Prof Soniya Nityanand, Head of Department of Hematology, SGPGIMS, Lucknow
13. Prof. Sunil Kumar, Head, Department of Radiology, SGPGIMS, Lucknow
14. Dr. Mohan Gurjar, Additional Professor, Department of Critical Care Medicine, SGPGIMS, Lucknow
15. Dr. Rajesh Harswardhan, Additional Professor & Head, Department of Hospital Administration, SGPGIMS, Lucknow

ACADEMIC BOARD MEMBERS, 2020

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2. Prof. K. K. Gupta, Director General Medical Educating & Training, Jawahar Bhawan, Lucknow.
3. Prof. S. K. Sarin, Director, Institute of Liver and Biliary Sciences, ILBS, New Delhi.
4. Prof. D. S. Rana, Sir Ganga Ram Hospital, New Delhi.
5. Dr. S. K. Puri, Former Director, CDRI, Laurpur Apartment, New Hyderabad, Lucknow
6. Prof. S. K. Mishra, Dean & HOD, Endocrine Surgery, SGPGI.
7. Prof. Rajan Saxena, Head Department of Surgical Gastroenterology, SGPGI
8. Prof. Eesh Bhatia, Head Department of Endocrinology, SGPGI
9. Prof. Narayan Prasad, Head Department of Nephrology, SGPGI
10. Head of Department, Hematology Department
11. Prof. Sunil Kumar, Head Department of Radio-diagnosis, SGPGI
12. Prof. V.A. Saraswat, Head Department of Gastroenterology, SGPGI
13. Prof. Sunil Pradhan, Head Department of Neurology, SGPGI
14. Prof. P. K. Goel, Head Department of Cardiology, SGPGI
15. Prof. Anil Agarwal, Head Department of Anesthesiology, SGPGI
16. Prof. Aneesh Srivastava, Head, Department of Urology, SGPGI
17. Prof. Banani Poddar, Head Department of Critical Care Medicine, SGPGI
18. Prof. Shubha R. Phadke, Head Department of Medical Genetics, SGPGI
19. Prof. R. K. Choudhary, Head Department of Transfusion Medicine, SGPGI
20. Prof. S. Gambhir, Head Department of Nuclear Medicine SGPGI
21. Prof. Manjula Murari, Head Department of Pathology, SGPGI
22. Prof. Kumudini Sharma, Head Department of Ophthalmology, SGPGI
23. Prof. Nirmal Gupta, Head Department of CVTS, SGPGI
24. Prof. Amita Aggarwal, Head Department of Clinical Immunology & Rheumatology, SGPGI
25. Prof. Sanjay Behari, Head Department of Neurosurgery, SGPGI
26. Prof. Punita Lal, Head Department of Radiotherapy, SGPGI
27. Prof. Rajiv Agarwal, Head Department of Plastic Surgery & Burn, SGPGI
28. Prof. Mandakini Pradhan, Head Department of Material & Reproductive Health
29. Prof. Uttam Singh, Head Department of Bio-statistics & Health Informatics, SGPGI
30. Prof. UjjalPoddar, Head Department of Pediatric Gastroenterology, SGPGI
31. Prof. Kirti M Naranje, Head Department of Neonatology, SGPGI
32. Prof. R.K. Singh, Head Department of Emergency Medicine, SGPGI
33. Prof. Ujjala Ghoshal, Head, Department Microbiology, SGPGI
34. Prof. Swati Tiwari, Head Department of Molecular Medicine & Bio-technology, SGPGI
35. Prof. Alok Nath, Head Department of Pulmonary Medicine, SGPGI
36. Prof. Basant Kumar, Head Department of Pediatric Surgical Super-specialties, SGPGI
37. Prof. Rajesh Harsvardhan, Head Department of Hospital Administration, SGPGI
38. Prof. U. C. Ghoshal, Faculty Incharge, Research, SGPGI
39. Prof Soniya Nityanand, Executive Registrar, SGPGIMS, Lucknow

Picture Gallery

Rajdhani Covid Hospitalg , 06.05.2020

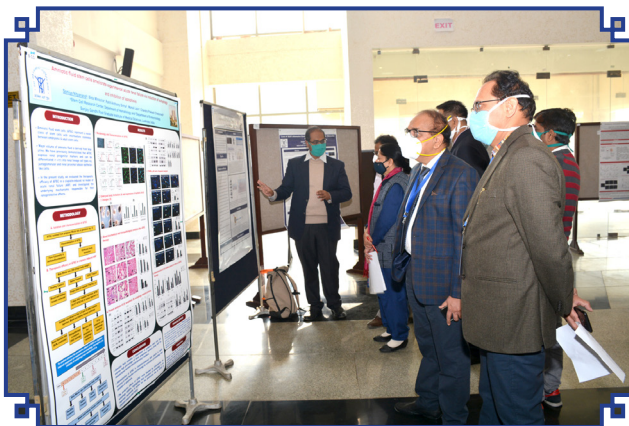


Felicitation of patients at the time of Discharge from RCH.

Signing of MOU with STPI 20.05.2020



1ST Research Day 13.12.2020



Display of posters on exceptional basic and clinical research work



Keynote address by Prof. S.K.Srain , Director ILBS

Tele - educational program on Medical ethics in Covid times 11.06.2020



Ceremonial Lamp Lighting



Engrossed Dignitaries

37th Foundation Day 2020 14.12.2020



Dignitaries at the dais



Exchange of MoU between SGPGI and Power Grid Corporation of India for creating virtual ICU.



Memento being presented to the Hon'ble Chief Minister by Director, SGPGI.

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DEPARTMENT OF ANESTHESIOLOGY

The Department of Anaesthesiology has maintained in its rich tradition of providing safe and high-quality clinical services to all the zones of SGPGI, which requested for them following high standards of professionalism and dedication in the preceding year. In addition to the delivery of anaesthetic services in the routine and emergency operation theatres of the Institute, the other areas covered by the Department included peripheral services (CT, MRI, DSA, Cardiac Cath Labs, ERCP etc.), ICU services (Post op and PMSSY), Pre Anaesthetic Checkup Clinics, Pain and Palliative Care (Clinics and wards). The members of the Department provided the necessary services to all these sectors of the hospital to ensure high quality and uninterrupted patient care maintaining high levels of patient safety.

STAFF

Name of Faculty Members:

1. Dr. Anil Agarwal
2. Dr. SP Ambesh
3. Dr. Prabhat Tiwari
4. Dr. S Shrivastava
5. Dr. Sanjay Dhiraaj
6. Dr. Devendra Gupta
7. Dr. Puneet Goyal
8. Dr. Aruna Bharti
9. Dr. Sandeep Sahu
10. Dr. Aarti Agarwal
11. Dr. Sanjay Kumar
12. Dr. Sandeep Khuba
13. Dr. Sujeet Gautam
14. Dr. Ashish Kannaujia
15. Dr. Amit Rastogi
16. Dr. Rudrashish Haldar
17. Dr. Chetna Shamsberry
18. Dr. Divya Shrivastava
19. Dr. Ruchiverma
20. Dr. Tapas Singh
21. Dr. Vansh Priya
22. Dr. Rafat Shamim
23. Dr. Ganpat
24. Dr. Prateek Singh
25. Dr. Suruchi Ambasta

Teaching and Training

Teaching and training of students had always been a core activity of the department. The restrictions imposed by the current situation has no doubt affected the theoretical and practical teaching of the trainees but overcoming these limitations, the departmental teaching activities continued to the best of its abilities using online resources to ensure that the learners continue to be provided with uninterrupted training in their chosen specialty.

The Board of Studies was held in the department and the starting of DM course (Pain Medicine and Organ Transplantation Anaesthesia) received an approval from the same. Starting DM in pain medicine has further been approved by the Academic Board. It is worth mentioning that the previous proposals to initiate DM programs in Neuroanaesthesiology and Cardiac Anaesthesia are already in process and continuous efforts are being made in that direction.

Honors & Awards

1. Professor Anil Agarwal was elected the President National Association of Palliative Care for AYUSH & Integrative Medicine (NAPCAIM) UP Chapter.
2. Professor Shashi Srivastava was elected the President of the Neuro Critical Care Society of India. She was also elected the President of ISA, Lucknow City Chapter.
3. Professor Prabhat Tewari continued his tenure as the Editor in Chief of the Journal "Annals of Cardiac Anaesthesia". He was also awarded the Col. RK Tripathi Lifetime Achievement Award by the ISA, Lucknow City Chapter. He also delivered the prestigious Dr VA Punnoose Oration.
4. Dr Sanjay Dhiraj became a part of an extramural project called the Perioperative Ischaemic Evaluation -3 (POISE-3) trial.
5. Dr. Devendra Gupta in collaboration with IIT Kanpur had developed a prototype of a Positive Pressure Respirator System (PPRS) for Health care Workers posted in COVID areas which is in its final stages of being granted a patent
6. Dr Sandeep Sahu received the International ICN National award 2020 for academic excellence in Emergency health care services and public health awareness.
7. Best Junior Resident (MD) award of SGPGI was awarded to Dr. Shruti Pandey with a certificate of appreciation on the account of 37th Foundation day of the institute.
8. Workshop/ Conferences Organized
9. The department of Anaesthesiology initiated an oration in the name of its first Professor and Head i.e. Dr Soma Kaushik, which would be an annual event in the forthcoming days. Professor Soma Kaushik delivered the first oration herself on Saturday 19th December 2020 on a virtual platform. This oration was attended by around 100 participants.

COVID related highlights

In the wake of the COVID-19 outbreak in the country the department rose to the occasion and started taking proactive steps right from the initial days of the pandemic. The Faculty members of the department assumed leadership roles and were entrusted charge of different committees, COVID areas and strategic planning which was executed with diligence. Dr Anil Agarwal was entrusted with the management of the Isolation Ward/ HDU ward along with Dr. Prateek Bais, Dr Rafat Shamim, Dr Vansh Priya, Dr Sandeep Khuba handled with competence. Dr Devendra Gupta was handled the mantle of one of the earliest ICU's created for COVID care which till date is an exemplary model created in times when such facilities were nearly unknown. Dr Puneet Goyal and Dr Tapas Singh were instrumental in making the Holding Area operational. In addition to this,

other Faculty members of the department had provided their skills and expertise in management of COVID patients in the various ICU's and HDU's created in the Institute on a regular basis by rotation. They had regularly been members of various teams sent to different part of the state for over viewing and streamlining COVID relief measures and providing their expert advice. The Department came up with structured protocols for various stages of perioperative care during the pandemic to contain the spread in non COVID areas which was amongst one of the first in the country, so that essential services can run unhindered. The faculty members of the department had initiated training programs other specialities, early during the course of the pandemic as a "Capacity Building Program". Primarily airway and ventilatory management was taught to the specialists through these programs.

Department of Anaesthesiology

Sanjay Gandhi Postgraduate Institute of Medical Sciences,
Lucknow (INDIA)



Sitting Row ; Dr. Aruna Bharti, Prof. Shashi Srivastava, Dr. Aarti Agarwal, Prof. K.C. Pant, Prof. Anil Agarwal, Prof. S.P. Ambesh, Prof. Prabhat Tiwari, Dr. Divya Srivastava, Dr. Ruchi Verma, Dr. Chetna Shamshery
Standing Row : Dr. Puneet Goyal, Dr. Rudrashish Haldar, Dr. Sanjay Kumar, Dr. Sujeet Kumar Singh Gautam, Dr. Sandeep Kubha, Dr. Ashish Kumar Kannaujia, Dr. Devendra Gupta, Dr. Sandeep Sahu, Dr. Amit Rastogi, Prof. Sanjay Dheraj

DEPARTMENT OF BIOSTATISTICS & HEALTH INFORMATICS

STAFF

Name of Faculty Members:

- | | |
|-------------------------|---------------------|
| 1. Prof. Uttam Singh | Prof and Head |
| 2. Dr. Prabhaker Mishra | Associate Professor |
| 3. Dr. Anup Kumar | Assistant Professor |
| 4. Dr. Jai Kishun | Assistant Professor |

Residents/Students

- | | |
|-----------------|-----|
| Ph.D | (2) |
| Research Fellow | (1) |

Departmental Activities

1. Basic course in Biostatistics for DM/MCh/MD/PhD students of various departments of the institute. This a mandatory course for all students and is organized about thrice a year.
2. Consultancy and data analysis services to the faculty/students/researchers of the SGPGI institute and other institute / organizations in the area of medical and health sectors.
3. Research in the field of biostatistics and other areas of collaborative interest.
4. Organize advanced courses in specialized areas of biostatistics and research methodology (Approximate 1-3 per year)
5. Conducting PhD and short summer training program in Biostatistics.
6. To manage and maintain the Hospital Information System (HIS) and patient care data on various servers in the institute.
7. Implementation and manage fully functional HIS to cater the patient care activities under this system.
8. Manage campus wide internet, email facilities and HIS system in residential areas, hostels, MRA, guest house through Wi-Fi.
9. Development of new technology in the area of health informatics.

Publications

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Workshop/ Conferences Organized

Department organized a two-day online training course on “Study design and sample size” during December 12-13, 2020. Around 200 participants including faculty/ residents/Ph.D. students and researchers belonging to various institutes from all over India participated in this meeting.

COVID related highlights

Department faculty are actively involved in the COVID care data management at institute as well as state level and by their inputs data management made easy and quick that ultimately useful to change of planning and strategy at appropriate level.

Vision of the Department for the next 5 years

1. Planning to start M.Sc. (Health Data Analytics) and Diploma in Data science.
2. To conduct more studies as systematic review and meta-analysis with collaboration to other departments.
3. To increase the frequency of advanced courses on various areas of the research methodology / biostatistics.
4. To explore and apply advanced biostatistical methods in order to improve the data analysis and the quality of research studies.
5. To explore application of advanced graphical methods in order to improve the quality and acceptability of research manuscripts in high impact journals.
6. To start paperless records and activities in the department and institute through e-office.
7. Tools development to interaction between patients and doctors / health providers.
8. To start courses in basic biostatistics and health informatics for faculty and other research staffs of this institutes.
9. To start training course in MS Office for Faculty / Residents and Non-teaching staff for this institute.

DEPARTMENT OF CARDIOLOGY

STAFF

Name of Faculty Members:

1.	Dr. PK Goel	Professor & Head
2.	Dr. Aditya Kapoor	Professor
3.	Dr. Satyendra Tiwari	Professor
4.	Dr. Naveen Garg	Professor
5.	Dr. Sudeep Kumar	Professor
6.	Dr. Roopali Khanna	Additional Professor
7.	Dr. Ankit Sahu	Assistant Professor

Courses offered

DM-Cardiology

Residents/Students

DM 23

Patent Care

Indoors Beds (Total) : 60 (22 ICU+28 General)

General Beds : 51

Private Beds : 09

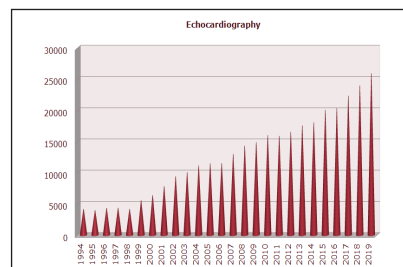
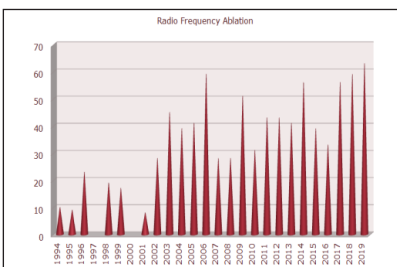
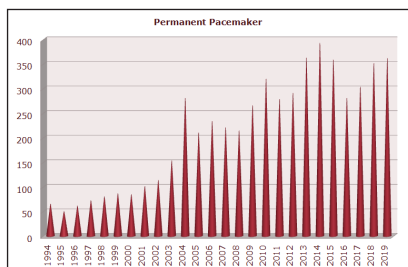
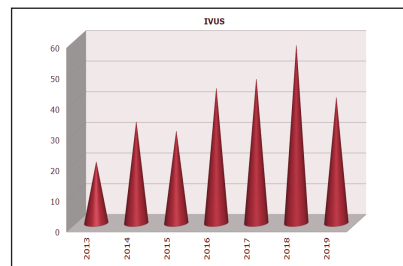
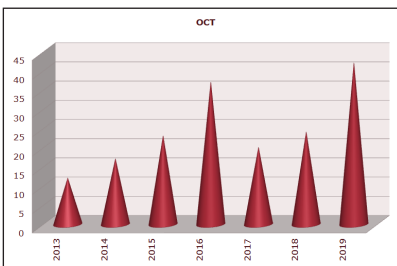
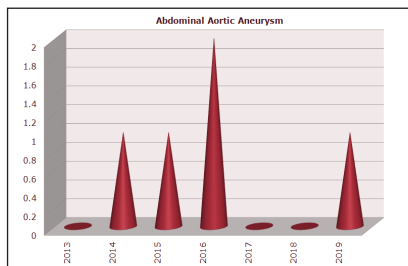
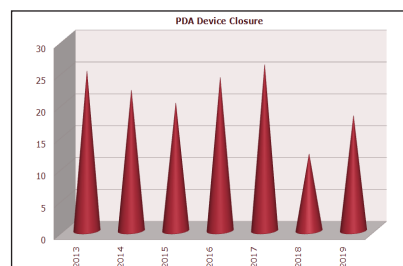
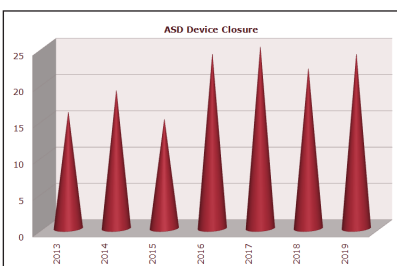
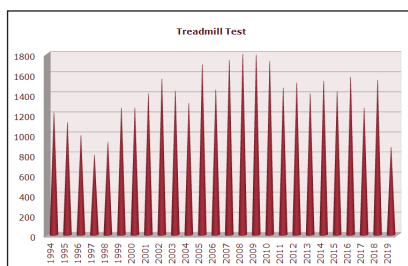
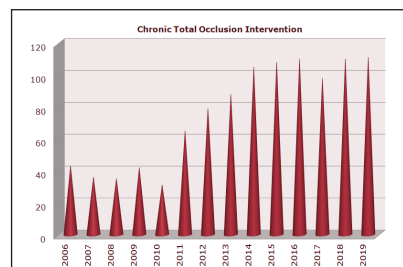
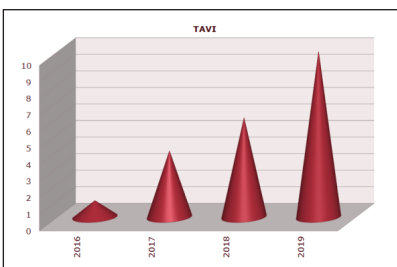
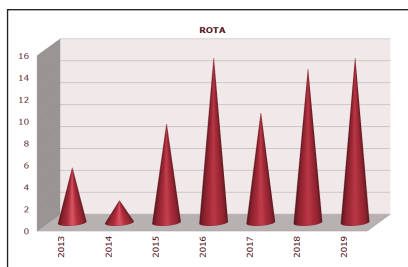
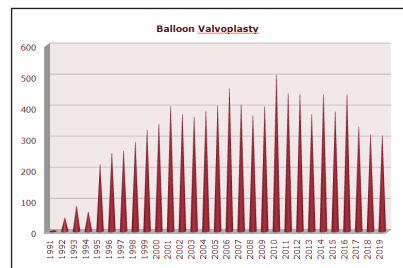
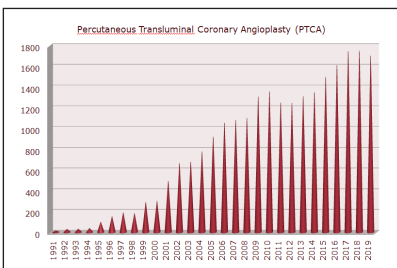
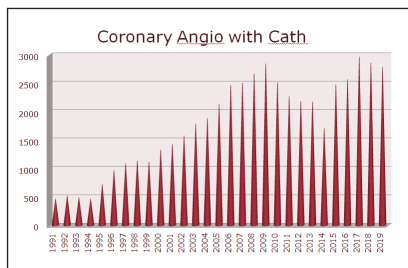
Laboratory Data

Invasive Lab : 03 Cath labs

Non-invasive Lab : 01 ECHO Lab, 01 TMT Lab

About the Department

1. Department is recognized nationally and internationally for complex high-risk angioplasty including CTO intervention and is one of the largest volume interventional center of Cardiology in the state. First center in Uttar Pradesh to start nearly one and every new interventional cardiology procedure over last 30 years. We did first angioplasty of the state in 1991 and first TAVI of the state in 2016.
2. Departmental focus is more on clinical work and it has been excelling in the same with national and international recognition and quality of services are equal to best within anywhere in the country for interventional cardiology. More than 20-25 live transmissions in various national and international meeting done over last 10 years for complex PCI/CTO procedures.
3. Research focus is largely on investigator initiate projects and publications generated out of the same. Government sponsored/public health related/state run health projects have not been the thrust area of the department till now.
4. Faculty has been involved as co-author in few extramural projects and in consensus statement/guidelines of management of different subspecialty areas within the country and internationally.



Publication

1. Three - year clinical and two - year multimodality imaging outcomes of a thin - strut sirolimus - eluting bioresorbable vascular scaffold: MeRes-1 trial. Ashok Seth, Praveen Chandra, PK Goel, VK Bahl. DOI: 10.4244/EIJ-D-19-00324.
2. First-in-Human evaluation of balloon expandable transcatheter heart valve in the treatment of severe symptomatic native aortic stenosis: The MyVal-1 Study. Samin K Sharma, Ravinder Singh Rao, Praveen Chandra, PK Goel, Prashant Bharadwaj. DOI: 10.4244/EIJ-D-19-00413.

3. Ghosh A, Kapoor A, Khanna R, Sahu A, Kumar S, Garg N, Tewari S, Goel P. A pilot study on the acute conversion and maintenance of sinus rhythm in Rheumatic Atrial Fibrillation using oral Flecainide. *Indian Heart J*, July 2020;
4. Yadav D, Sahu AK, Khanna R, Goel PK. Impact of percutaneous coronary intervention on patients with impaired baseline renal function. *Indian Heart J*, July 2020;
5. Sahu AK, Sagar P, Khanna R, Kumar S, Tewari S, Kapoor A, Garg N, Goel PK. Etiology and distribution of isolated aortic stenosis in Indian patients-a study from a large tertiary care hospital in north India. *Indian Heart J*, June 2020;
6. Chatterjee K, Khanna R, Sahu A, Kumar S, Garg N, Tewari S, Kapoor A, Goel PK. Immediate and long-term outcomes of balloon mitral valvotomy in pregnancy. *Indian Heart J* May 2020.

Original articles

1. A pilot study on the acute conversion and maintenance of sinus rhythm in rheumatic atrial fibrillation using oral flecainide. Anindya Ghosh, Aditya Kapoor, Roopali Khanna, Ankit Sahu, Sudeep Kumar, Naveen Garg, Satyendra Tewari, Pravin Goel. *Indian Heart Journal* 2020; 72(5), 383-388
2. A Brief Guidance for Cardiologists for Resource Containment Measures to Mitigate Anticipated Shortages of N-95 Filtering Facepiece Respirators during COVID-19 Pandemic. P Kapoor, Aditya Kapoor, A Azim. *Ann Card Anaesth*. 2020 Jul-Sep; 23(3): 340-343. Published online 2020 Jul 17. doi: 10.4103/aca.ACA_97_20
3. Breathability and Safety Testing of Personal Protective Equipment: The "Human-Comfort" Factor Remains Undefined. Aditya Kapoor, Arvind Kumar Baronia, Afzal Azim, Gaurav Agarwal, Narayan Prasad, Richa Mishra, Vivek Anand Saraswat. *Indian Journal of Critical Care Medicine*, *Indian Journal of Critical Care Medicine*, 2020. <https://www.ijccm.org/doi/IJCCM/pdf/10.5005/jp-journals-10071-23598>
4. Will the hidden specter of acute coronary syndrome (ACS) and ST-segment elevation myocardial infarction (STEMI) emerge from the avalanche of COVID-19? Aditya Kapoor, Rakesh Yadav, *Indian Heart J*. 2020 May-Jun; 72(3): 192-193
5. Digital healthcare: The only solution for better healthcare during COVID-19 pandemic? Aditya Kapoor, Santanu Guha, Mrinal Kanti Das, Kewal C. Goswami, Rakesh Yadav *Indian Heart J*. 2020 Mar-Apr; 72(2): 61-64. Published online 2020 Apr 11. doi: 10.1016/j.ihj.2020.04.001
6. Managing ACS during COVID-19 infection: Do not follow the traditional route Santanu Guha, Somnath Mukhopadhyay, Avik Karak, Basabendra Choudhury, Aditya Kapoor, Rakesh Yadav *Indian Heart J*. 2020 Mar-Apr; 72(2): 128-130. Published online 2020 Apr 15. doi: 10.1016/j.ihj.2020.04.003
7. Cardiovascular risks of hydroxychloroquine in treatment and prophylaxis of COVID-19 patients: A scientific statement from the Indian Heart Rhythm Society. Aditya Kapoor, Ulhas Pandurangi, Vanita Arora, Anoop Gupta, Aparna Jaswal, Ashish Nabar, Ajay Naik, Nitish Naik, Narayanan Namboodiri, Amit Vora, Rakesh Yadav, Anil Saxena *Indian Pacing Electrophysiol J*. 2020 May-Jun; 20(3): 117-120. Published online 2020 Apr 8. doi: 10.1016/j.ipej.2020.04.003
8. Guiding Principles for Cardiology Care in Times of the COVID-19 Pandemic: Gazing through the Crystal Ball Ankit Sahu, Aditya Kapoor *Ann Card Anaesth*. 2020 Oct-Dec; 23(4): 532-536. Published online 2020 Oct 19. doi: 10.4103/aca.ACA_150_20
9. Effect of statin on perioperative myocardial injury in isolated valve surgery. Atul Kaushik, Aditya Kapoor, Surendra Kumar Agarwal, Shantanu Pande, Shiridhar Kashyap, Archana Sinha, Roopali Khanna, Sudeep Kumar, Naveen Garg, Satyendra Tewari, Pravin K Goel.

- Asian Cardiovascular & Thoracic Annals 2020. sagepub.com/journals-permissions. DOI: 10.1177/0218492320974514
10. Exploring the Association of Fibrinogen and CRP with the Clinical Spectrum of CAD and Periprocedural Outcomes in Patients Undergoing Percutaneous Coronary Intervention. V Khandelwal, Aditya Kapoor, Danish Kazmi, Archana Sinha, Shiridhar Kashyap, Roopali Khanna, Sudeep Kumar, Naveen Garg, Satyendra Tewari, Ankit Sahu, Pravin Goel. Annals of Cardiac Anesthesia 2020. Submitted: 05-Jan-2020 Revised: 25-Mar-2020 Accepted: 07-May-2020
 11. Use of strain, strain rate, tissue velocity imaging, and endothelial function for early detection of cardiovascular involvement in young diabetics. Atul Kaushik, Aditya Kapoor, Preeti Dabadghao, Roopali Khanna, Sudeep Kumar, Naveen Garg, Satyendra Tewari, Pravin K Goel, Archana Sinha. Ann Pediatr Card 2020. Submitted: 09-Oct-2019 Revised: 31-Jan-2020 Accepted: 17-Sep-2020
 12. Statin Reload before Off-pump Coronary Artery Bypass Graft: Effect on Biomarker Release Kinetics Atul Kaushik, Aditya Kapoor, Surendra K Agarwal, Shantanu Pande, Prabhat Tewari, Gauranga Majumdar, Archana Sinha, Shiridhar Kashyap, Roopali Khanna, Sudeep Kumar, Naveen Garg, Satyendra Tewari, Pravin Goel Ann Card Anaesth. 2020 Jan-Mar; 23(1): 27-33. Published online 2020 Jan 7. doi: 10.4103/aca.ACA_133_18
 13. Lipid Association of India Expert Consensus Statement on Management of Dyslipidemia in Indians 2020: Part III. J Assoc Physicians India. 2020 Nov;68(11[Special]):8-9.
 14. Is Sepsis a Cardiac Nemesis? Exploring New Vistas. Aditya Kapoor Indian J Crit Care Med. 2020 Feb; 24(2): 83-84. doi: 10.5005/jp-journals-10071-23319
 15. Immediate and long-term outcomes of balloon mitral valvotomy in pregnancy. Krishnarpan Chatterjee, Roopali Khanna, Ankit Sahu, Sudeep Kumar, Naveen Garg, Satyendra Tewari, Aditya Kapoor, Pravin K. Goel Indian Heart J. 2020 Jul-Aug; 72(4): 248-251.
 16. Etiology and distribution of isolated aortic stenosis in Indian patients – A study from a large tertiary care hospital in north India Ankit Kumar Sahu, Pramod Sagar, Roopali Khanna, Sudeep Kumar, Satyendra Tewari, Aditya Kapoor, Naveen Garg, Pravin K. Goel Indian Heart J. 2020 Jul-Aug; 72(4): 272-277.
 17. Speckled appearance of ball and cage valve': An unusual 2D-ECHO artifact or a sign of pathological degeneration. Ankit Kumar Sahu, Aditya Kapoor. IHJ Cardiovascular Case Reports (CVCR) Volume 4, Issue 3, September-December 2020, Pages 133-134
 18. Textbook of Cardiology "Hypertension: New Frontiers. Cut-offs for HT in India: Implications for 2020 and beyond.
 19. Cardiological Society of India (CSI) 2020 update: Atrial Fibrillation and Cognition

News and Events

1. Annual conference of UP Chapter CSI organized in 2020, February 8-9 by the department with Dr Naveen Garg as Organizing Secretary.

Vision

1. Develop a Heart Command Center which could cater for primary angioplasties to be done round the clock (the most established life saving treatment in Cardiology) and could benefit atleast the society living within 25-30 Km of SGPGI to which institute could be accessible within an hour maximum (basic requirement for success of this facility) and achieve a door to balloon time of < 90 minutes. This is possible if one has a committed fully loaded ambulance service program (staff + emergency equipment) with a fleet of may be only 05 ambulances stationed in 05 radial

directions of SGPGI about 10-12 KM away and emergency cardiac beds 12-24 to begin with available round the clock. The whole program could be controlled by the PRO on duty round the clock and a helpline number. This could be extending to a complete cardiac facility with 200 beds as a independent cardiology/ cardiac sciences centre- The Heart Command Centre.

2. Development of subspecialties like pediatric cardiology and electrophysiology to the same level as any where best in the country with recruitment of faculty who show 100% commitment to these subspecialties.
3. Continuing to maintain the same level of excellence in interventional cardiology, structural heart intervention and in areas like CTO intervention and complex high risk PCI where already an above threshold level of excellence has been achieved.
4. To have a Heart Transplant program functional on a regular basis with atleast one faculty committed to this field.
5. To run a state level primary prevention program for heart disease at community/school going children level with a faculty committed to this epidemiological cardiology field.

Mission

1. Heart attack is a major killer today. Nearly 50% of heart attack patients die before reaching the hospital. If anyone could reach the hospital and timely and especially if it is a PCI centre nearly 50% of total cardiac mortality could be salvaged. The department was from a long time aiming to run a heart attack ambulance service which however could never get executed although 5 fully loaded ambulances were available then within the institute.
2. The department had given a proposal to run the ambulance service along with an emergency heart command centre. Department still envisions the heart attack service and the same would be in true state/public health care interest.

DEPARTMENT OF CLINICAL IMMUNOLOGY AND RHEUMATOLOGY

STAFF

Name of Faculty Members:

- | | |
|-------------------|---------------------|
| 1. Amita Aggarwal | Professor & Head |
| 2. Able Lawrence | Professor |
| 3. Vikas Agarwal | Professor |
| 4. Durga P Misra | Assistant Professor |
| 5. Latika Gupta | Assistant Professor |

Emeritus Scientist (ICMR)

Dr. Sudhir Sinha

Residents/Students

DM 12

PhD 03

Following students successfully completed their degrees

1. Dr. Sarit Sekhar Pattanaik, Dr. Harikrishnan Gangadharan, Dr. Hafis Muhammed VK and Dr. Sujata Ganguly were awarded DM degree in Sep. 2020.
2. Dr. Ankita Singh (Guide Prof. Amita Aggarwal) defended her Ph.D. degree on 10.12.19 and was awarded degree on January 9, 2021. The title of her thesis was "Adenosinergic pathway: Prediction of response to Methotrexate therapy in patients with Rheumatoid Arthritis (RA)".
3. Dr Shruti Bhattacharya (Guide Prof. Amita Aggarwal) defended her Ph.D. degree in August 2020 and was awarded degree on January 9, 2021. The title of her thesis was "Endogenous Toll Like Receptor ligands in the Pathogenesis of Adult and Juvenile Spondyloarthritis".

Departmental Activities

Patient Care Services

OPD

Old Follow-up	:	11217
New Registration	:	2349
e-OPD	:	5862
Ward: Admission	:	902

Investigations

SN.	Name of Test	No. of test	SN.	Name of Test	No. of test
1	RF	211	18	Anti GBM	258
2	CRP	3852	19	Anti MPO	69
3	ANA	3663	20	Anti PR3	71

4	AMA	422	21	Serum Ferritin	947
5	ASMA	854	22	Serum Ceruloplasmin	255
6	LKM	571	23	ACLA (IgM)	195
7	ds-DNA	1279	24	ESR	2396
8	ANCA Screen	1246	25	Anti CCP Antibodies	165
9	ACLA (IgG)	193	26	RA Screening	860
10	ENA Screen	769	27	Serum IgE	231
11	IgG	833	28	Anti TTG	870
12	IgA	424	29	Alpha-1 Antitrypsin	15
13	IgM	359	30	APP	557
14	C3	1595	31	Myositis SAA	81
15	C4	1576	32	Anti Aquaporin-4-IIFT	12
16	APCA	211	33	ENA Systemic Sclerosis	20
17	Cryoglobulin	20	34	MRI Peripheral Joints	10

This year due to COVID-19 Pandemic the patient load reduced significantly after March 2020.

Teaching and Training

Despite Lockdown, the daily teaching activity as case review/Morbidity Mortality meeting/Radiology meetings/ case discussions/ seminars/ journal clubs/ research review meetings/pathology meetings and Clinical Grand rounds, continued on Zoom platform. In addition, the students and faculty participated in multiple Webinars organized by Indian Rheumatology Society, Pediatric Rheumatology Society, Asia-Pacific society of Immunodeficiency

Short Training Observership

1. Dr. Anil Kumar, DNB-SS Rheumatology, Indraprastha Apollo Hospital, New Delhi, trainee from period 02.03.2020 to 23.03.2020.

Honors and Awards

Amita Aggarwal

- Received the International Malaviya Travelling fellowship for the year 2020 to develop Rheumatology at a Medical College.

Member/Chairperson of Government committees

1. Co-Chairperson of GOI statutory body for recombinant and genetically modified (RCGM) products
2. Chairperson Project Review Committee (Immunology & Allergy) ICMR
3. Member DBT task force on chronic disease biology
4. Member DST-SERB Committee for COVID19-CRG and IRPHA project
5. Member of selection committee for DBT-Biotechnology Research Innovation and Technology Excellence awards 2019-21
6. Member, Review committee on Women Health, DBT 2020-22

7. Member, Technical Expert Committee for IRHPA project entitled “Development of Non-Transplant Therapeutic Strategies for Advanced Liver Diseases’ 2018-21
8. Member task force on Allergy and Immunology, ICMR, 2019-2020
9. Member Task force for development of Immunotherapy Guidelines, ICMR
10. Member Task force for monitoring IP/MSD consortium in COVID-19, ICMR
11. Member of Scientific Advisory group on Analgesics and Rheumatic drugs of DCGI
12. Member External Committee for Independent Evaluation of RGCB, Trivandrum
13. Member of Selection committee of sectional committee on Medicine of The Indian Academy of Sciences (IASc), Bangalore
14. Member Review Committee for National Essential list of Medicines, ICMR & CDSCO

Vikas Agarwal

- Andrew Douglas award by Journal of Royal College of Physicians for the year 2020 for “T cell signature in sarcoidosis with arthritis’ research paper.

DP Misra

- Invited examiner for MRCP (UK) PACES Examination held at Kochi from 19th to 20th February 2020.

Latika Gupta

- The European League Against Rheumatism 2020 -e-bursary
- Fellowship of Postgraduate Medicine International Prize and for Asia in the 2020 FPM Medical Writing in Social Media Awards.
- Publons’ top reviewer 2020
- APLAR Fellowship 2020.

Residents, Research fellows

1. Pankti Mehta: League Against Rheumatism 2020 -e-bursary

Member of the Editorial Board/Editor of a Journal**Amita Aggarwal**

- Advisory group member of Lancet Rheumatology
- Editorial board member, Pediatric Rheumatology
- Editorial board member, Journal of Clinical Rheumatology 2015-20

Vikas Agarwal

- Editor-in-Chief, Indian Journal of Rheumatology

DP Misra

- Associate Editor – Rheumatology International, Indian Journal of Rheumatology, Journal of the Royal College of Physicians of Edinburgh
- Editorial Board Member – Clinical Rheumatology, Archives of Rheumatology, Mediterranean Journal of Rheumatology, African Journal of Rheumatology. Central Asian Journal of Medical Hypotheses and Ethics.

Latika Gupta

- Guest Editor for Myositis Supplement by Indian Journal of Rheumatology
- Editorial board member: Ukrainian Scientific And Practical Journal (Shevchenko Scientific Society) August 2020 onwards
- Member of the *Rheumatology* (Oxford) journal Digital and Social Media Committee (DSMC) (Nov 2020 onwards)
- Editorial board member: BMC Musculoskeletal disorders :Impact factor 2.5 Dec 2020 onwards.
- Editorial board member Frontiers in Medicine, Dec 2020 onwards.

Referee/Reviewer of a Journal**Amita Aggarwal**

- Rheumatology Oxford
- Lancet Rheumatology
- Arthritis and Rheumatology
- Journal of Rheumatology
- Clinical Rheumatology
- Rheumatology International
- J of Clinical Rheumatology
- Pediatric Rheumatology
- Arthritis Research and Therapy
- International Journal of Rheumatic Diseases
- Lupus
- Annals of Rheumatic diseases
- Indian J Medical Research
- Indian J of Pediatrics
- Indian Pediatrics
- Indian J of Nephrology

Vikas Agarwal

- Arthritis Rheumatism published by Willey Inter Science,
- Rheumatology Oxford published by Springer
- Clinical Rheumatology published by Springer
- Arthritis Research and Therapy
- PLOS one
- Arthritis Rheumatism published by Willey Inter Science,
- Rheumatology Oxford published by Springer
- Clinical Rheumatology published by Springer
- Arthritis Research and Therapy
- PLOS one
- Science reports
- Liver and Digestive diseases

- International Journal of Rheumatic Diseases
- Arthritis care and research
- Seminars in arthritis rheumatism
- Annals of Rheumatic diseases
- European J Pharmacology
- Indian Journal of Rheumatology
- Indian Journal of Pharmacology
- JK Science
- Indian J Medical Research

DP Misra

- International Journal of Rheumatic Diseases
- Rheumatology International
- Journal of Korean Medical Science
- Archives of Rheumatology
- Clinical Rheumatology
- Seminars in Arthritis and Rheumatism
- Journal of Rheumatology
- Journal of the Royal College of Physicians of Edinburgh
- Indian Journal of Rheumatology

Latika Gupta

- Scientific reports
- Rheumatology International
- BMC Musculoskeletal disorders
- International Journal of Rheumatic Diseases
- Psychology, Health & Medicine
- Archives of Rheumatology
- Journal of the Royal College of Physicians of Edinburgh
- Psychology, Health & Medicine
- Journal of clinical and laboratory analysis
- Postgraduate medicine
- Indian Journal of Rheumatology
- Rheumatology International
- Clinical Rheumatology
- Journal of Clinical Rheumatology
- Journal of the Royal College of Physicians of Edinburgh
- International Journal of Rheumatic Diseases
- Psychology, Health & Medicine
- Archives of Rheumatology
- Journal of clinical and laboratory analysis

- Rheumatism
- Globalization and Health
- Rheumatology Oxford
- Patient Preference and Adherence
- Journal of Clinical Immunology
- Journal of Multidisciplinary Healthcare
- Infectious disease reports
- Cukurova Medical Journal
- Saudi Journal of Health Sciences
- BMJ Open
- Indian Journal of Rheumatology
- Indian Journal of Medical Specialties
- Internet Journal of Rheumatology and Clinical Immunology
- MJAFI
- Postgraduate medicine

Research Projects

Intramural

SN.	Title of Project	Name of PI	Amount in INR	Date of Sanction and Duration
1.	Indigenous technique to isolate pancreatic stellate cells and evaluation of cGMP/PKG1/2/PPM1A/ SHP-2 pathways in pancreatic fibrosis	V Agarwal	500000/=	20.10.2020 2020-22
2.	Characterization of circulating microparticles in ANCA vasculitis and their role in inducing endothelial injury and glomerulonephritis -	DP Misra	500000/=	20.10.2020 2020-22
	Evaluation of TGF- β induced canonical and Non-canonical fibrotic pathways in fibroblasts derived from stricture esophagus	L. Gupta	500000/=	11.01.2021 2020-22
3.	Outcome in Adulthood of children with enthesitis related arthritis (ERA) category of juvenile idiopathic arthritis (JIA) and its predictors.	A Aggarwal	500000/=	18.02.2019 2019-21

4.	To evaluate the role of CXCR2 Ligands (IL-8 and Gro-a) on A1K1 and A1K5 Imbalance in chondrocytes Derived from OA cartilage.	V Agarwal	500000/=	14.03.2019 2019-21
5.	Determination of Myositis specific and Myositis Associated antibody profiles of Indian Myositis patients using the Immunoprecipitation assay.	L Gupta	500000/=	14.03.2019 2019-20
6.	Prediction of Response to Methotrexate in rheumatoid arthritis: Using Genes involved in Adenosine pathway.	A Aggarwal	490000/=	19.06.2018 2018-20
7.	MRI as determinant of outcomes in inception cohort of reactive arthritis.	L. Gupta	500000/=	28.09.2018 2018-20

Extramural

SN.	Title of Project	Name of PI	Funding Agency	Amount in INR	Date of Sanction and Duration
1.	Evaluation of peripheral blood T and B cell responses to M tuberculosis membrane and the associated antigen alpha crystallin as progression biomarkers for tuberculosis.	Dr. A. Aggarwal	ICMR	7000000/=	01.01.2020 2020-23
2.	Validation of the myositis specific antibody profiles in an Indian Cohort of patients with inflammatory myositis using immunoprecipitation assay.	Dr. L. Gupta	Bird Bath Foundation	1700000/=	2020-22
3	Study on Polio and Non-Polio enterovirus infections in children with immunodeficiency at multiple medical institutes across India	Dr. A. Aggarwal	WHO/NIV	100000/=	2020-2022
4.	MEFV polymorphisms as contributors to inflammation amplifier loop in Reactive Arthritis.	Dr. L. Gupta	IRA	200000/=	2020-22

5.	Disease outcome in adulthood of children with enthesitis related arthritis (ERA) category of Juvenile Idiopathic arthritis and its predictors: a cohort study.	Dr. A. Aggarwal	ICMR	2735436/=	09.08.2019 2019-22
6.	Understanding pathogenesis of Takayasu arteritis-transcriptomics applied to peripheral blood mononuclear cells (PBMC) and involved vessels and the role of various T-cell	Dr. D.P. Misra	ICMR	7100000/=	19.08.2019 1919-22
7.	Multi-institutional network program on systemic lupus erythematosus understanding the diversity of SLE.	Dr. A. Aggarwal	DBT	12253443/=	31.08.2018 2018-23
8.	FPID_SGPGI primary immunodeficiency centre.	Dr. A. Aggarwal	FPID	2500000/=	2018 2018-23
9.	Exploration of methylamine as a novel metabolite driving endothelial cell apoptosis and fibrosis in scleroderma.	Dr. D.P. Misra	APLAR	950000/=	2018-20

Postdoctoral fellows

1. Dr. Mohit Kumar Rai joined in the Young Scientist Scheme "Evaluation of cGMP/PKG pathway in pathways in Idiopathic Pulmonary Fibrosis: an in vitro and in vivo study" 2020 - 23 funded by DHR-ICMR.
2. Dr.Sanjukata Majumdar post-doctoral fellow "IL-36 role in pathogenesis of Enthesitis related arthritis." Funded by DST/SERB 2019-2021.

Students

3. Dr.Rudrapan Chatterjee (Guide-Prof Amita Aggarwal): IRA research grant for project entitled 'Pneumococcal vaccination in systemic lupus erythematosus: efficacy estimation. (Rs 1 lac).
4. Dr. Anu Balakrishnan ((Guide-Prof Amita Aggarwal): IRA research grant for project entitled 'Anti CD74 antibodies in JIA-ERA subgroup of patients' (Rs 1 lac).

Publications

Original Articles

1. Agarwal V, Gupta L, Davalbhakta S, Misra DP, Agarwal V, Goel A. Prevalent fears and inadequate understanding of Covid-19 among medical undergraduates in India: Results of a web-based survey. JR Coll Physicians Edinb. 2020;50:343-50.
2. Arif Z, Tarannum A, Arfat MY, Arif B, Shahab S, Arif M, Nelofar K, BadarA, Islam SN, Zaman A, Ahmad S, Iqbal MA, Gupta A, Aggarwal A, Alam K. Impact of endogenous stress on albumin

- structure in systemic lupus erythematosus (SLE) patients. *Int J Biol Macromol.* 2020;151:891-900.
3. Arovenan A, Tejasvi, Saranagi A, Aggarwal A, Stoll M. Microbial orchestra in Juvenile Idiopathic Arthritis: Sounds of disarray? *Immunol Rev.* 2020; 294:9-26.
4. Bhattacharya S, Misra R, Aggarwal A. Patients with enthesitis related arthritis show similar monocyte dysfunction pattern as seen in adult axial spondyloarthritis. *Ped Rheumatol* 2020 Jan 15; 18(1):6.
5. Davalbhakta S, Advani S, Kumar S, Agarwal V, Bhoyar S, Fedirko E, Misra DP, Goel A, Gupta L, Agarwal V. A systematic review of the smartphone applications available for coronavirus disease 2019 (COVID19) and their assessment using the mobile app rating scale (MARS). *Journal of Medical Systems* 2020;44:164.
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Book Chapter

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Editorial & Review

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18. Misra DP, Ravindran V. Copyright and its violation: plagiarism and other publication misconducts – tread carefully to avoid falling! *J R Coll Physicians Edinb*. 2020;50:3-5.
19. Misra DP, Ravindran V. Publication models in scientific publishing—to open or not? *J R Coll Physicians Edinb* 2020;50:112-3.
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Letter to editor

1. Durga Prasanna Misra, Vinod Ravindran, Aman Sharma, Anupam Wakhlu, Sakir Ahmed, Vir Singh Negi, Vikas Agarwal. An Indian Perspective on Universal Open Access Publishing: Think of the Fire before Venturing Out of the Frying Pan! *J Korean Med Sci*. 2020;35:e85
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9. Misra DP, Ravindran V, Sharma A, Wakhlu A, Ahmed S, Negi VS, Agarwal V. Letter to the Editor: An Indian Perspective on Universal Open Access Publishing: Think of the Fire before Venturing Out of the Frying Pan!. J Korean Med Sci. 2020; 35:e85.

Conference Presentation

1. Misra DP et al. Amelioration of pro-fibrotic phenotype of dermal fibroblasts from patients with systemic sclerosis with combination of tacrolimus and phosphodiesterase 5 inhibitor. – Poster presentation at APLAR e conference, October 2020.

Workshop/Conference Organized

1. Co-organized Webinar on How to convert a Thesis to paper-Quickly! On 27-28 June 2020
2. Organized webinar series cum workshop on Scientific paper writing and publication ethics by the IJR and PReS from 30 June -28th July 2020

Outstanding Features & Summary

1. **New Academic course:** PDCC course in Pediatric Clinical Immunology & Rheumatology has been approved and will start from 2021
2. **Extramural grants:** 6 extramural grants were sanctioned in last year (3 from ICMR and 1 from WHO, 1 from DHR, 1 from Bird Bath foundation). Two DM students (Dr Rudrapan and Dr Anu) also got research grants from Indian Rheumatology Association (IRA).

COVID related highlights

Clinical studies

Vikas Agarwal

- Tocilizumab in COVID-19

Amita Aggarwal

- Collaborating with Department of Endocrinology in DST funded study on impact of SARS-CoV-2 in patients with diabetes and its clinical consequences

Research Publications

Large number of articles related to COVID-19 related issues like health care, telemedicine, impact on patients etc, have been published in pubmed indexed journals by the department in last year

Social responsibilities

The department started teleconsultation as soon as lockdown started from March 25 by actively calling all patients who had pre-fixed appointments. This helped in continued patient care and helped them allay their fear about COVID 19 in immunosuppressed patient.

Brother Ajay Singh was involved in social work of providing food to migrants and poor during lockdown. Other members of the department contributed by providing financial support for this endeavor

Future Plans

The department has plans to do the following in the next 5 years

1. Medical college network for training manpower in Rheumatology in UP
2. Increase training slots for DM
3. National reference laboratory for Autoantibodies
4. Patient education program
5. Centre of Excellence on rheumatic diseases (coordinated patient care with rehabilitation, physiotherapy and joint replacement as well as basic science research)

DEPARTMENT OF CRITICAL CARE MEDICINE

STAFF

Name of Faculty Members:

1. A.K.Baronia	Professor & HoD (took voluntary retirement in September 2020)
2. Banani Poddar	Professor & HoD
3. Afzal Azim	Professor
4. Mohan Gurjar	Additional Professor

Residents/Students

DM	06
PDCC	04
HSSR	10

Departmental Activities

Services

Patient Care

The Department runs only IPD services

Admissions	229
Other tests and procedures:	
Central Venous Catheterisation	450
Intra-arterial Catheterisation	220
Pulmonary Artery Catheterisation	04
Endotracheal Intubation	150
Percutaneous Tracheostomy	120
Renal Replacement therapy	550
Outreach services rendered to other wards:	
Organ failure assessment and management	350
Follow-up of critically sick patients in other wards	220
Cardiopulmonary Resuscitation	40
Placement of Central Venous Catheter	180
Endotracheal Intubation besides CPR	25

Teaching and Training

DM	:	06
PDCC trainees	:	04
SR (HS)	:	10

Long term sponsored trainees : 01

Dr. (Lt. Col) Mallikarjun Dube, Army Medical Core

Honors & Awards

Faculty

Mohan Gurjar

- Presidential Citation Award at 26th Annual conference of the Indian Society of Critical Care Medicine (ISCCM), 26th – 27th Feb 2020, Hyderabad.

Residents

Bhanuprakash KB: Best DM student

Member of Editorial Committee

Banani Poddar

- Indian Journal of Critical Care Medicine [Associate Editor]

Afzal Azim

- Journal of Anesthesia and Intensive Care Medicine
- National Journal of Maxillofacial surgery

Mohan Gurjar

- The Indian Anesthetist Forum
- Journal of Neuroanaesthesiology and Critical Care

Referee/Reviewer of a Journal

Banani Poddar

- Journal of Critical Care
- Journal of Intensive Care
- Indian Journal of Critical Care Medicine
- Indian Pediatrics
- Indian Journal of Medical Research
- Journal of Pediatric Critical Care

Afzal Azim

- Research Society of Anesthesiology and Clinical Pharmacology
- HSR proceedings in Intensive Care and Cardiovascular Anesthesia
- Journal of Laboratory Physicians
- National Journal of Maxillofacial surgery
- Respiratory Care
- Case reports in Critical care
- Indian Journal of Medical Research (IJMR)
- Medicine
- Journal of Epidemiology and Health
- Indian Journal of Critical Care Medicine

- Indian Journal of Anesthesia

Mohan Gurjar

- Indian Journal of Critical Care Medicine
- Journal of Neuroanaesthesiology and Critical Care
- Indian Journal of Medical Research
- The Indian Anaesthetist's Forum
- BMJ Case Reports
- Evaluation of 02 research projects submitted to European Society of Intensive Care Medicine (ESICM) for research award (2020)

Research Projects

Intramural

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	Clinical features and course of children admitted with COVID-19 at SGPGIMS RCH: an observational study	Banani Poddar	None	Non funded	Duration: June 2020 to May 2021 IEC code: 2020-263-IP-EXP-30 dt 30.09.2020
2.	Renal outcome of acute kidney disease in critically ill patients: a prospective observational study. (Clinical Trials.gov Identifier: NCT03597854)	Mohan Gurjar	SGPGIMS	Rs. 2.95 lac	Duration Jun 2018 – Jun 2020 IEC Code: 2017-234-DM-EXP
3	Delineation of metabolomic signatures for characterization of disease markers associated with patients in sepsis and septic shock	Dr Afzal Azim	None		2018 to 2020 IEC Code: 2018-170-Phd-107

National Coordinator for International Studies (HMSC Approved) [Non-funded]

Mohan Gurjar

- Epidemiology and determinant of outcomes of hospital acquired Blood Stream Infections in the intensive care. (Eurobact II) [2019-2020]
- International Point Prevalence Study of Intensive Care Unit Transfusion Practices (InPUT Study) [2020-2021]

Publications

Original Articles

- Berger MM, Appelberg O, Reintam-Blaser A, Ichai C, Joannes-Boyau O, Casaer M, Schaller SJ, Gunst J, Starkopf J; ESICM-MEN section (Gurjar M). Prevalence of hypophosphatemia in the ICU - Results of an international one-day point prevalence survey. Clin Nutr. 2020 Dec 29:S0261-5614(20)30692-0. doi: 10.1016/j.clnu.2020.12.017. Online ahead of print. PMID: 33454128

2. Ibarz M, Boumendil A, Haas LEM, Irazabal M, Flaatten H, de Lange DW, Morandi A, Andersen FH, Bertolini G, Cecconi M, Christensen S, Faraldi L, Fjølner J, Jung C, Marsh B, Moreno R, Oeyen S, Öhman CA, Bollen Pinto B, Soliman IW, Szczeklik W, Valentin A, Watson X, Zaferidis T, Guidet B, Artigas A; VIP1 study Collaborators (Gurjar M). Sepsis at ICU admission does not decrease 30-day survival in very old patients: a post-hoc analysis of the VIP1 multinational cohort study. *Ann Intensive Care*. 2020 May 13;10(1):56. doi: 10.1186/s13613-020-00672-w. PMID: 32406016
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6. 1. Rai R, Singh R, Azim A. Impact of critical illness on Quality of life after ICU Discharge. *Indian J Crit Care Med* 2020; 24(5): 299–30. doi:10.5005/jp-journals-10071.23433
7. Sahu C, Pal S, Patel SS, Singh S, Gurjar M, Ghoshal U. Phenotypic synergy testing of ceftazidime-avibactam with aztreonam in a university hospital having high number of metallo-beta-lactamase producing bacteria. *Infect Dis (Lond)*. 2020 Nov;52(11):801-807. doi: 10.1080/23744235.2020.1788224. Epub 2020 Jul 6. PMID: 32628575

Letter to the Editor

1. Gurjar M, Agarwal V. Usefulness of hydroxychloroquine for COVID-19: Does answer lie in timing to start? *Indian J Rheumatol* 2020;15:249.
2. Saran S, Gurjar M, Garg A, Sahu C, Bhaskar B, Mishra P, Azim A, Poddar B, Baronia AK. Uncommon non-fermenting Gram-negative bacillary bacteraemia in ICU patients. *Infect Dis (Lond)*. 2020 May;52(5):372-375. doi: 10.1080/23744235.2020.1716991. Epub 2020 Jan 23. PMID: 31973624

Book Chapter

1. Bhaskar B, Ahmed A, Gurjar M. Individualizing optimum duration of antibiotics. In: *Critical Care Update 2020*. Todi S, Dixit SB, Chaudhry D, Mehta Y. (Eds). New Delhi, Jaypee Brothers Medical Publisher, 2020, pp 181-184. (ISBN Number: 978-93-89776-88-1)
2. Bhaskar B, Patnaik R, Gurjar M: Management of ARDS in COVID-19. In *COVID-19 Essential Overview*. Jain A (Ed). New Delhi, Evangel Publishing, 2020. (In press).
3. Cinotti R, Pelosi P, Schultz MJ, Aikaterini I, Alvarez P, Badenes R, Mc Credie V, Elbuzidi AS, Elhadi M, Godoy DA, Gurjar M, Haengggi M, Kaye C, Mijangos-Méndez JC, Piagnerelli M, Piracchio R, Reza ST, Stevens RD, Yoshitoyo U, Asehnoune K; ENIO Study Group. Extubation strategies in neuro-intensive care unit patients and associations with outcomes: the

- ENIO multicentre international observational study. *Ann Transl Med.* 2020 Apr;8(7):503. doi: 10.21037/atm.2020.03.160. PMID: 32395547
4. Dube M, Gutte, SH, Gurjar M. Post Covid Syndrome. In COVID-19 Essential Overview. Jain A (Ed). New Delhi, Evangel Publishing, 2020. (In press).
 5. Patnaik R, Bhaskar B, Gurjar M: Management of multiorgan failure. In COVID-19 Essential Overview. Jain A (Ed). New Delhi, Evangel Publishing, 2020. (In press).
 6. Poddar B (section editor): Neonatology and Pediatrics. In ISCCM manual of Noninvasive ventilation. Subhal Dixit, Dhruva Chaudhry, Yatin Mehta, Kapil Zirpe (Eds), Jaypee Brothers Medical Publishers, 2020, pp 285-325.

Review Article

1. Saran S, Gurjar M, Garg A. Identifying and implementing strategies to reduce the risk of self-contamination of healthcare workers caused by doffing of PPE during COVID-19 pandemic. *Disaster Med Public Health Prep.* 2020 Oct 22;1-12. doi: 10.1017/dmp.2020.396. Online ahead of print. PMID: 33087198
2. Saran S, Rao N, Azim A. New and promising anti-bacterials: Can this promise be sustained? *J Anaesthesiol Clin Pharmacol* 2020; 36(1): 13-19. doi: 10.4103/joacp.JOACP-113-19
3. Saran S, Rao NS, Azim A. Drug Dosing in Critically Ill Patients with Acute Kidney Injury and on Renal Replacement Therapy. *Indian J Crit Care Med* 2020;24 (Suppl 3):S129-S134. doi: 10.5005/jp-journals-10071-23392
4. Saran S, Gurjar M, Baronia A, Sivapurapu V, Ghosh PS, Raju GM, Maurya I. Heating, ventilation and air conditioning (HVAC) in intensive care unit. *Crit Care.* 2020 May 6;24(1):194. doi: 10.1186/s13054-020-02907-5. PMID: 32375844
5. Saran S, Gurjar M, Baronia AK, Lohiya A, Azim A, Poddar B, Rao NS. Personal Protective Equipment during COVID-19 Pandemic: A Narrative Review on Technical Aspects. *Expert Rev Med Devices.* 2020 Dec; 17(12):1265-1276. doi: 10.1080/17434440.2020.1852079. Epub 2020 Dec 31. PMID: 33203245
6. Siddiqui MA, Pandey S, Azim A, Sinha N, Siddiqui MH. Metabolomics: An emerging potential approach to decipher critical illnesses. *Biophy Chem.* 2020 Aug; 267:106462. doi: 10.1016/j.bpc.2020.106462 PMID: 32911125
7. Singh M, Ahmed A, Azim A. Protecting healthcare Workers against Covid-19 during Aerosol Generating Medical Procedures (Agmps) in ICUs. *EC Nursing and Healthcare.* 2.10 (2020): 33-45.
8. Singh R, Azim A, Singh N. Should We or Should We Not Reuse Filtering Face Piece Masks? A Review. *Indian J Crit Care Med* 2020;24 (9):857-862. doi: 10.5005/jp-journals-10071-23565

Conference Presentations

International

Afzal Azim

- Clinical profile of patients suffering from Ventilator associated events (VAEs): An experience from tertiary care centre in North India. E- Chest Congress Italy 25th -27th June 2020.

Mohan Gurjar

- Use of albumin in critically ill patients: Current evidences. At 1st International E-conference on critical care 2020. Organized by Bangladesh Society of Anesthesiologists. 17th-18th Oct 2020.

National

Banani Poddar

- Invited as faculty for IAP Central zone E-Pedicon 2020, August 2020; delivered a lecture on 'Respiratory failure in children-recognition and stabilisation'
- Invited as faculty for 22nd national conference of IAP PIC chapter (Pedicriticon 2020), December 2020 (virtual conference); delivered a lecture on 'E-FAST: the right way'

Afzal Azim

- Invited as faculty for e API 2020, November on :Update on Covid Management

Mohan Gurjar

- Micronutrients supplementation in enteral and parenteral nutrition. At IAPEN Clinical Nutrition Congress and 7th Annual International Conference, JIPMER, Puducherry. 7th February, 2020.

Outstanding Features/Summary

Inspite of the current COVID pandemic and its devastating effects on health care facilities (Non COVID), the department continued to provide the same high quality of ICU care services to critically ill Institute patients and to several patients transferred from outside the Institute (between 70 to 100% bed occupancy). This is in spite of the severely depleted workforce of the department as each and every staff member (faculty, residents, nurses, patient helpers, safai workers and data entry operators) did their share of COVID duties in the RCH and managed critically ill COVID patients.

COVID related highlights

Each and every member of the department contributed to the COVID response of the Institute in their own unique fashion. To enlist a few,

1. Prof Baronia was Chairperson of the critical care services of the COVID task force. He was also instrumental in identifying and setting appropriate standards for the consumables (especially the PPE) required for running the COVID facility of the Institute
2. Dr. Banani was incharge of the care of children with COVID and was a part of the task force
3. Dr. Afzal was incharge of HRF procurement for COVID related consumables and drugs and spent long hours in sifting through the huge deluge of items submitted for scrutiny to procure the right PPE and drugs, among other items, to be used for the COVID facility of our Institute.
4. Dr. Mohan was member of the critical care taskforce and was instrumental in meticulously planning the ICU care of COVID patients

The department provided and continues to provide ICU consultations to all the COVID facilities across the state of Uttar Pradesh. This is a 24x7 activity and has helped innumerable critically ill patients across the state, admitted in the various COVID facilities.

A.K.Baronia

- Chairperson of COVID taskforce for critical care management

Banani Poddar

- Chairperson of COVID taskforce for pediatric patients

Afzal Azim

- Visited as a technical expert for establishment and preparedness of Covid services in hospitals of Bareilly and hospitals of Gorakhpur
- Clinical in charge of the ICU in RCH II, which was functional from 20th September to 25th December.
- Member of Core Covid ICU Coordination committee.
- Member of Core Protocol Committee for SGPGI Covid Protocol
- Member of Covid Education programme for Medical Colleges in the State

Mohan Gurjar

- Jhansi District visit as a technical expert, along with a senior bureaucrat, to see preparedness (15th – 21st June, 2020)
- Visit to Integral Institute of Medical Sciences & Research (IIMSR) to inspect functioning as well as preparedness of their COVID ICU Unit on 22nd August, 2020.
- eCCS (electronic covid care support) to various state medical colleges via 08765974002
- Member, Critical Care Taskforce, SGPGIMS

Vision of the Department for the next 5 years**Clinical (2020-2025)**

1. Increase in bed strength to 40 ICU beds. Presently, 8 CCM-ICU beds are under the possession of department of hematology. These 8 CCM-ICU beds were given to hematology department in the good faith and understanding in 2003, that all beds will be return to Critical Care Medicine department, in a year or so.
2. To start Extracorporeal Membrane Oxygenation (ECMO) Services for
 - o ARDS patients
 - o Heart failure patients
 - o Cardiogenic shock after Acute Myocardial infarction
 - o Septic cardiomyopathy
3. To start the program of continuous improvement of Patient Care Quality Indicators which includes developing/identifying key performance indicators, generating primary audit data and improving those parameters through interventions and performing post-intervention audit data. Electronic medical record system with data-mining facility and dashboard is an urgent requirement to achieve these goals.
4. Simulation based training in ICU: There are three simulation centers in SGPGI – (1) Anaesthesiology, (2) Apex Trauma Centre and (3) School of Medical Technology. As in the field of research, if all the simulators are placed under one umbrella in the name of Central Simulation Laboratory much like the establishment of Central Research Laboratory then we can have full access to such costly facilities.

Research (2020-2025)

SWOT analysis of qualitative and quantitative research in Critical Care Medicine

Strengths

On an average 15-20 articles get published each year

Participated in more than 15 international collaborative studies

A medical device innovation (got published in Indian Patent Office Journal)

1. Weaknesses

- o Bottlenecks – Manpower shortage at the level of faculty and Senior residents
- o Electronic medical record system with data-mining facility and dashboard is an urgent requirement to achieve these goals.

2. Opportunities

- o Mission would be to provide scientific, methodological, statistical and/or management services or support to new or experienced researchers in whatever aspects of research they may pursue related to improved care and treatment of intensive care patients.
- o To liase and enter MoU with national and international centres for critical care research.
- o Vision is to become a national service and an international collaborator for intensive care researchers including collaboration with the animal house of SGPGI to start animal experiments relevant to critically ill patients of India

3. Threats

- o Loss of data (as long as the EMR- Electronic Medical Record system is not in place).
- o Investigator initiated intervention studies is not possible as institute has to provide corpus fund for insurance cover.
- o Poor support from library for last 2-3 years

Academic (2020-2025)

1. Subspeciality development in the form of Pediatric critical care, Trauma critical care, Transplant critical care and Infectious diseases critical care
2. Nursing college to start MSc Critical Care Nursing after BSc Nursing
3. School of Medical Technology to start Batchelors in Critical Care Technicians
4. To start PhD programs in the field of Critical Care Medicine
5. Development of audiovisual modules for Critical Care training

Departmental contribution to strengthen the Health System of the state, especially public health care.

1. Development of a robust program for teaching and training of medical and paramedical staff of all the major non-teaching hospitals run by the State Government. A programme to train staff of the District hospitals is already on the anvil
2. To become a centre to generate Paramedical staff to serve critical care population in the State and country through the school of Nursing and College of Medical Technology of SGPGIMS.

DEPARTMENT OF CARDIO VASCULAR AND THORACIC SURGERY

The Department of CVTS routinely performs surgery for congenital heart diseases, arrhythmias and valvular heart diseases. Apart from open heart and major cardiothoracic surgeries, the department has been doing Minimal Access Cardiac Surgery including Minimal Access Beating Heart Coronary Artery Bypass Grafting Surgery. The Department is in all its earnestness, working towards surgery for heart failure patients. In addition to Cardiovascular and Thoracic Surgery M.Ch. program, the department has successfully commenced 1-year Post Doctoral Fellowship (PDF) courses. The department has also started Neonatal Cardiac Surgery and Robotic Cardiothoracic Surgery. Dr. S.K. Agarwal was awarded the Mehar Ji Mehta Oration for the year 2020 by the Indian Association of Cardio Thoracic Surgeons. Prof. Nirmal Gupha has been elected for Vice Chairman of American Academy of Yoga & Meditation and Member of Arogya Bharti – NITI Aayog Committee on Integrative Medical Research.

DEPARTMENT OF EMERGENCY MEDICINE

STAFF

Name of Faculty Members:

- | | |
|---------------------------------|---------------------|
| 1. Prof. (Dr.) Ratender K Singh | Professor and Head |
| 2. Dr Alka Verma | Assistant Professor |
| 3. Dr Tanmoy Ghatak | Assistant Professor |
| 4. Dr Om P Sanjeev | Assistant Professor |

Residents/Students

- | | |
|-------------------------|----------------------------|
| 1. Dr. Abhishek Yadav | Senior Resident (HS) |
| 2. Dr. Amit Verma | Junior Resident (Non-Acad) |
| 3. Dr. Sandhya Mishra | Junior Resident (Non-Acad) |
| 4. Dr. Aakanksha Mishra | Junior Resident (Non-Acad) |
| 5. Dr. Pushkar Ranjan | Junior Resident (Non-Acad) |

Departmental Activities

The Head, Department of Emergency Medicine was nominated as the Nodal Officer-COVID-19-SGPGI, and thus forth the department has been at the forefront in the battle against COVID-19. His contributions have been in all aspects of planning, implementation and maintenance of Rajdhani Corona hospital (RCH), an apex tertiary COVID-Care-Hospital. Teaching and training of HCWs in COVID not only in SGPGI but also 52 medical colleges of Uttar Pradesh has been a major thrust area of the team. COVID-Version-01 and 02 Teaching Modules were imparted to nearly 75000 HCWs and have helped augment the COVID-Care in the state of Uttar Pradesh. Faculties of the department have also been actively engaged as in-charges of various key areas like triage, admissions and ICU in RCH. Even in the peak of COVID, the department of Emergency Medicine continued to cater to the emergencies landing on its gate.

Patient Care Services OPD:

1. Old Follow-up: N/A
2. New Registration Admission

IPD:

1. Annual Footfall-10,834 in 2020
2. Admitted-2,681 in 2020

Honours & Awards

Prof. (Dr.) R K Singh

- received the "Health ICON & Corona Warrior Award" by Hon'ble Health Minister of Uttar Pradesh, Mr. J P Singh.

Dr. Alka Verma

- received the FACEE (Fellowship of Academic College of Emergency Experts)

Dr. O P Sanjeev

- received the with FACEE (Fellowship of Academic College of Emergency Experts).

Member of Editorial Committee**Prof. (Dr.) R K Singh****Dr Tanmoy Ghatak****Dr. O P Sanjeev:**

- Indian Journal of Emergency Medicine

Referee/Reviewer of a Journal**Prof. (Dr.) R K Singh**

- Critical Care Medicine
- Intensive Care Medicine
- Critical Care
- Thrombosis Research
- Indian J of Critical Care medicine
- Indian J of Gastroenterology

Dr. Tanmoy Ghatak

- BMJ Case reports
- Journal of Anesthesia
- Journal of Clinical Anesthesia
- International Journal of Dermatology
- Journal of Vector Borne Diseases
- Sultan Qaboos University Medical Journal
- Medical Journal Dr D Y Patil University, Pune

Dr. O P Sanjeev

- Indian Journal of Emergency Medicine
- Journal of Anaesthesiology Clinical Pharmacology
- Global journal of Infectious Diseases

Publications

1. Samanta S, Patnaik R, Azim A, Gurjar M, Baronia AK, Poddar B, Singh RK, Neyaz Z Incorporating Lung Ultrasound in Clinical Pulmonary Infection Score as an Added Tool for Diagnosing Ventilator-associated Pneumonia: A Prospective Observational Study from a Tertiary Care Center. Indian J Crit Care Med. 2021 Mar;25(3):284-291. doi: 10.5005/jp journals-10071-23759.
2. Kulshrestha N, Ghatak T, Gupta P, Singh M, Agarwal J. Surveillance of health care workers hand to detect carriage of multidrug resistant Staphylococcus spp in a tertiary care center - an

- observational study. Accepted in Med J DY Patil Vidyapeeth. (Google Scholar, Hinari, CNKI)
3. Rahul, Verma A, Yadav P, Sharma VK, Sanjeev OP. Non-COVID Surgical Emergency During the Nationwide Lockdown due to Corona Pandemic: a Critical Appraisal. Indian J Surg. 2020 Aug 10:1-5.
 4. Srivastava D, Verma R, Singh TK, Verma A, Chandra A, Sahu S, Mishra P. Ultrasound-guided anterior quadratus lumborum block for postoperative pain after laparoscopic pyeloplasty: A randomized controlled trial. Anesth essays res 2020; 14:233-8.

Workshop/Conferences Organized

Outstanding Features/Summary

1. Department of Emergency Medicine was at the forefront of battle against Covid-19 for the institute. Prof. R K Singh was appointed as Nodal Officer for this campaign. He created necessary infrastructure for Covid-19 hospital named Rajdhani Corona Hospital. Other faculty of the department were in-charges of many crucial areas of Covid-19 hospitals like Triage (T2 & T3), Admissions and ICU.
2. Department in coordination with other departments prepared the teaching modules for doctors and paramedical staffs of the medical colleges of the state. department has also been instrumental in framing many guidelines for the hospitals and medical colleges for the state.
3. Continuing emergency services for patients during pandemic was a tough challenge, as it was a scary situation for HCWs as well as patient and their relatives. Taking necessary precautions, ED continued to serve large numbers of patients. Except for one of case, no major outbreak of Covid-19 was reported from ED, due to the stringent precautionary measures in place.
4. First PDCC degree from the department was awarded in 2020. Department made it all efforts and did necessary preparation to start MD courses in Emergency Medicine throughout the year, which finally led NMC inspection in the beginning of 2021.

Vision of the Department for the next 5 years

Department envisages to establish the largest Emergency Medicine of the country along with establishment of many untouched clinical areas like Geriatric Emergency Medicine, Acute Care Medicine, Disaster Management, Emergency Medical Services, Toxicological & Transport Medicine etc. We are also looking forward to play a lead role in ambitious Tele-ICU-Service, Air Ambulance Service and the Golden Hour Project in SGPGI. We wish to run various academic courses for the teaching training of graduates and postgraduates as well as nurses and paramedics. The overall aim of the department is to become the Apex Training Center in the field of Emergency Medicine, and provide the much needed trained manpower for capacity building of Emergency Services in the vast state of Uttar Pradesh and country at large.

DEPARTMENT OF ENDOCRINOLOGY

STAFF

Name of Faculty Members

We are 8 faculty (7 clinical and one basic scientist), 11 DM students, 1 PDCC pediatric endocrinology and 4 SRs in pediatric endocrinology at present.

Patient Care Services

1. We cared for 807 new patients, 1382 inter-departmental consultations, 6860 follow up patients in our physical OPD, and 6732 patients in our e OPD.
2. We activated several modules in Hindi and English on our *departmental website*, for patient education: Diabetes Education Booklet in Hindi and English for childhood and Adolescent Diabetes and also for Type 2 Diabetes. Diabetes Insulin brand exchanges guideline which was very useful during lockdown and post-lockdown, sick day guideline for childhood diabetes, *Covid* prevention guideline for diabetes patients in Hindi and English, adult and child, Patient education videos for free viewing on You Tube, in Hindi, on Insulin, Hypoglycemia, Nutrition, and Long Term Complications. Celiac disease instructions, Stress advice for those on steroids, congenital hypothyroidism treatment sheet, preliminary and detailed information (Hindi) for families with disorders of sex development (DSD, among others.

Laboratory services

We assayed 45108 samples in the Endocrinology lab, 15770 in the diabetes lab and 421 in the X-ray Densitometry lab.

Publications

Original Articles

1. Rajak S, Iannucci LF, Zhou J, Anjum B, George N, Singh BK, Ghosh S, Yen PM, Sinha RA. Loss of ULK1 Attenuates Cholesterogenic Gene Expression in Mammalian. Hepatic Cells. Front Cell Dev Biol. 2020 Sep 30;8:523550.
2. Rajak S, Raza S, Tewari A, Yadav S, Ghosh S, Yen PM, Sinha RA. Autophagic protein ULK1 regulates FOXM1 signalling in human hepatoma cells. Biochem Biophys Res Commun. 2020 Nov 19;532(4):570-575.
3. Yadav S, Pal S, Singh P, Porwal K, Sinha RA, Kumari N, Chattopadhyay N, GuptaSK. Calcium repletion to rats with calcipenic rickets fails to recover bone quality: A calcipenic “memory”. Bone. 2020 Dec;141:115562.
4. Kumar A, Kalita J, Sinha RA, Singh G, B A, Shukla M, Tiwari S, Dhole TN, Misra UK. Impaired Autophagy Flux is Associated with Proinflammatory Microglia Activation Following Japanese Encephalitis Virus Infection. Neurochem Res. 2020 Sep; 45(9):2184-2195. doi: 10.1007/s11064-020-03080-5.
5. Pal S, Porwal K, Rajak S, Sinha RA, Chattopadhyay N. Selective dietary polyphenols induce differentiation of human osteoblasts by adiponectin receptor1-mediated reprogramming of mitochondrial energy metabolism. Biomed Pharmacother. 2020 Jul;127:110207.

6. Sinha RA, Rajak S, Singh BK, Yen PM. Hepatic Lipid Catabolism via PPAR α -Lysosomal Crosstalk. *Int J Mol Sci.* 2020 Mar 31; 21(7):2391.
7. Godbole NM, Sinha RA, Tiwari S, Pawar SD, Dhole TN. Analysis of influenza virus-induced perturbation in autophagic flux and its modulation during Vitamin D3 mediated anti-apoptotic signaling. *Virus Res.* 2020 Jun; 282:197936.
8. Upadhyay A, Sinha RA, Kumar A, Godbole MM. Time-restricted feeding ameliorates maternal high-fat diet-induced fetal lung injury. *Exp Mol Pathol.* 2020 Jun; 114:104413.
9. Sinha RA, Bruinstroop E, Singh BK, Yen PM. Thyroid Hormones and Thyromimetics: A New Approach to Nonalcoholic Steatohepatitis? *Hepatology.* 2020 Aug; 72(2):770-771.
10. Pandey R, Shukla P, Anjum B, Gupta HP, Pal S, Arjaria N, Gupta K, Chattopadhyay N, Sinha RA, Bandyopadhyay S. Estrogen deficiency induces memory loss via altered hippocampal HB-EGF and autophagy. *J Endocrinol.* 2020 Jan 1; 244(1):53-70.
11. Joseph TP, Kotecha NS, Kumar H B C, Jain N, Kapoor A, Kumar S, Bhatia E, Mishra P, Sahoo SK. Coronary artery calcification, carotid intima-media thickness and cardiac dysfunction in young adults with type 2 diabetes mellitus. *J Diabetes Complications.* 2020 Aug; 34(8):107609.
12. CK Jha, A Mishra, SB Yadav, G Agarwal, S Singh, G Chand, A Agarwal. Thyroid dysfunctions and autoimmunity in breast cancer patients: a prospective case-control study. *Archives of Endocrinology and Metabolism* 2020, 64 (6), 743-750.
13. K Delampady, SVB Reddy, SB Yadav. Assessing the quality of life in Indian Graves' orbitopathy patients and validation of Hindi version of GO-QOL questionnaire. *J Diabetes Complications.* 2020; 34(8):107609.
14. Vipin VP, Zaidi G, Watson K, G Colman P, Prakash S, Agrawal S, Bhatia V, Dabadghao P, Bhatia E. High prevalence of idiopathic (islet antibody-negative) type 1 diabetes among Indian children and adolescents. *Pediatr Diabetes.* 2021 Feb; 22(1):47-51.
15. Gunna S, Neyaz Z, Bhatia E, Marak RS, Mishra R, Verma R. Results of Percutaneous Computed Tomography-Guided Biopsy of Adrenal Lesions and Spectrum of Computed Tomography Findings. *J Clin Imaging Sci.* 2020 Apr 6; 10:16.
16. Nayak S, Dabadghao P, Dixit P, Dwivedi V, Srivastava AK, Behari S. Cushing's Disease in Children: A Review. *Neurol India.* 2020 May-Jun; 68(Supplement):S52-S65.
17. Peña AS, Witchel SF, Hoeger KM, Oberfield SE, Vogiatzi MG, Misso M, Garad R, Dabadghao P, Teede H. Adolescent polycystic ovary syndrome according to the international evidence-based guideline. *BMC Med.* 2020 Mar 24; 18(1):72.
18. Sharma R, Kumari M, Prakash P, Gupta S, Tiwari S. Phosphoenolpyruvate carboxykinase in urine exosomes reflect impairment in renal gluconeogenesis in early insulin resistance and diabetes. *Am J Physiol Renal Physiol.* 2020 Mar 1; 318(3):F720-F731.
19. Sharanappa V, Mishra A, Bhatia V, Mayilvagnan S, Chand G, Agarwal G, Agarwal A, Mishra SK. Pediatric Primary Hyperparathyroidism: Experience in a Tertiary Care Referral Center in a Developing Country Over Three Decades. *World J Surg.* 45(2):488-495. doi: 10.1007/s00268-020-05816-4. Epub 2020 Oct 12. PMID: 33047232.
20. Nayak S, Sarangi AN, Sahoo SK, Mangla P, Tripathy M, Rao S, Gupta S, Paliwal VK, Sudhanshu S, Ravi C, Joshi K, Bhatia V, Bhatia E. Neonatal diabetes mellitus: novel mutations from an institutional experience. Accepted for publication in *Ind J Pediatr.*
21. Mangla P, Gupta S, Chopra A, Bhatia V, Vishwakarma R, Asthana P. Influence of Socio-Economic and Cultural Factors on Type 1 Diabetes Management: Report from a Tertiary Care Multidisciplinary Diabetes Management Center in India. *Indian J Pediatr.* 2020 Jul; 87(7):520-525. doi: 10.1007/s12098-020-03227-w. Epub 2020 Feb 21. PMID: 32086759.

22. Kumar A, Kanwar J, Bharti N, Agrawal V, Bhatia E, Chandra Yadav S, Low diagnostic utility of the overnight high-dose dexamethasone suppression test in ACTH-dependent Cushing's syndrome. *Endocrine Practice* 2021.
23. Agarwal G, Rajan S, Valiveru RC, Tulsyan S, Agrawal V, Mittal B, Zaidi G, Mayilvaganan S, Mishra A, Agarwal A, Mishra SK, Bhatia E. Genetic profile of Indian pheochromocytoma and paraganglioma patients - A Single Institutional Study. *Indian J Endocrinol Metab*;23:486-490.

Book Chapter

Preeti Dabadghao

- Polycystic Ovarian disease and peripubertal hyperandrogenism. *Textbook of Pediatric Endocrinology, Pediatric Endocrine Disorders*. 4th Edition. Universities Press/Orient Blackswan. *In press*.

Subhash Yadav

- Thyroid physiology, Editor - *Textbook of Endocrine Surgery: A south Asian Perspective* Publishers: CRC Taylor and Francis
- Normocalcemic hyperparathyroidism, Editor - *Textbook of Endocrine Surgery: A south Asian Perspective*, Publishers: CRC Taylor and Francis

SK Sahoo

- Sahoo SK, Bhatia V. Transition of care from pediatric to adult Endocrinology. *Textbook of Pediatric Endocrinology, Pediatric Endocrine Disorders*. 4th Edition. Universities Press/Orient Blackswan. *In press*

Honors and Awards

1. Dr. Rohit A. Sinha: Best Research Paper award (Basic Science), SGPGIMS, INDIA (2020).

Member Editorial committee and Reviewer

E. Bhatia

Editorial Committee

1. Indian Journal of Medical Research

Reviewer

1. National Medical Journal of India
2. Indian Journal of Medical Research
3. Journal of Diabetes
4. Clinical Endocrinology
5. Endocrine Connections
6. Paediatric Diabetes

Task force:

1. Chairman, ICMR task force on impact of yoga on chronic care
2. Member, Expert group Registry of People with Diabetes with Young Age at the Onset-Phase-II

Preeti Dabadghao

Reviewer

- Journal of pediatric endocrinology and metabolism
- National Medical Journal of India
- Indian Pediatrics
- Pediatric Diabetes

Subhash Yadav

Reviewer

- Abstracts for annual conference of Endocrine Society of USA (ENDO)-2021.

SK Sahoo

Reviewer

- Abstracts for annual conference of Endocrine Society of USA (ENDO)-2021
- Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy

Rohit A. Sinha

Reviewer

- Served as a Grant Reviewer for Wellcome Trust/DBT, India
- Served as a Reviewer for Journals:

Environmental Toxicology and Pharmacology, PPAR Research, Scientific Reports, Biomedicine & Pharmacotherapy, Journal of Gastroenterology, PLoS ONE, Journal of Cellular Biochemistry, Frontiers in Physiology, Autophagy, Endocrine Journal, Expert Review of Gastroenterology & Hepatology, Food Research International.

Abstracts for annual conference of Endocrine Society of USA (ENDO)-2021.

- Abstracts for annual conference of Endocrine Society of USA (ENDO)-2021
- Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy

Grants extramural and intramural:

No	Title	Name of PI	Funding agency	Amnt	Date of sanction	Duration
1	Islet antibody negative type 1 diabetes (type 1B) in north Indians: clinical implications and pathogenesis	Dr. Eesh Bhatia	ICMR	80 lakhs	2019	3 y
2	Prediction of relapse after antithyroid therapy in Graves' disease	Dr. Subhash Yadav	Endocr Soc India	2 lakh	2020	2 y

3	Alternations in immune, inflammatory and endocrine responses in Indian patients with diabetes infected with SARS-CoV-2 and its clinical consequences	Dr. S K Sahoo	SERB	73 lakh	2020	3 y
4	Skeletal muscle function and pulmonary function in patients with hypoparathyroidism	Dr. S K Sahoo	Endocrine Soc India	2 lakh	2019	2 y
5	Genetic characterization of idiopathic hypoparathyroidism using next-generation sequencing	Dr. S K Sahoo	SGPGIMS	5 lakh	2019	2 y
6	Vitamin D deficiency and its replenishment in children receiving anti epileptic drugs	Dr. Siddhnath-Sudhanshu	(Intramural) SGPGI	5 lakhs	2019	2 y
7	Determining the role of pancreatic alpha-cell autophagy in intra-cellular glucagon turnover and its modulation as an anti-diabetic therapy	Dr. Rohit A. Sinha	Wellcome Trust/DBT	339 lakh	2017	5 y
8	Potential Role of aldo-keto Reductase Family 1, member B10 (AKR1B10) as a diagnostic and therapeutic target in Nonalcoholic steatohepatitis (NASH).	Dr. Rohit A. Sinha	ICMR	34 lakh	2019	3 y
9	Role of Cystic fibrosis transmembrane conductance regulator (CFTR) in the pathogenesis of Non-alcoholic steatohepatitis (NASH).	Dr. Rohit A. Sinha	SERB	33 lakh	2020	2 y

10	Childhood Diabetes – District Outreach as a Model for Decentralized Care and Education through use of Telemedicine	Dr. V Bhatia	DST	60 lakh	2020	3 y
11	Towards rational definition of vitamin D deficiency: the role of free 25 hydroxycholecalciferol.	Dr. V Bhatia	DBT	58 lakh	2019	2 y

Covid Highlights

1. Diabetic patients admitted in RCH Corona Hospital were given 24x7 cover and advice to the teams on shift duty in the various wards and ICUs, for blood glucose management, as a large proportion of patients admitted had diabetes.
2. The patient resources page in our department website was augmented to include Covid related advice in Hindi, for patients with type 1 and type 2 diabetes mellitus . A large number of other endocrinology and diabetes resources were also added onto our department web page.

Outstanding features

We generated Rs 3.4 crores in extramural grant funding this year. We created several useful patient education information in various media in Hindi and English, available on our department website in the SGPGI website.

Vision for the department in the next 5 years

1. To start DM in pediatric endocrinology
2. Creation of an Advanced Diabetes Centre, with expansion of diabetes services including tele-diabetes and outreach diabetes services
3. Bone and mineral metabolism laboratory services: DEXA (high end) with TBS, quantitative CT, bone histomorphometry
4. Expansion and modernization of Endocrinology laboratory services, including patient care molecular endocrinology laboratory and steroid hormones analysis by LCMS-MS.

DEPARTMENT OF ENDOCRINE SURGERY (& BREAST SURGERY)

STAFF

Name of Faculty Members:

1.	Dr. S.K. Mishra	Professor & Head
2.	Dr. Amit Agarwal	Professor
3.	Dr. Gaurav Agarwal	Professor
4.	Dr. Anjali Mishra	Professor
5.	Dr. Gyan Chand	Professor
6.	Dr. Sabaretnam M.	Associate Professor

Residents / Students

MCh -12

PDCC-1

RA/JRF -1

Departmental Activities

Patients Care Services

OPD	OPD Schedule	-	6 days per week
	Indoors - beds	-	32
	General	-	22 + 04 (day care)
	Private	-	06
	Isolation	-	00
	Operation Theatre	-	02
(a)	Old Follow-up	5960	
(b)	New Registration	605	
(c)	Admission	1744	
(d)	Surgery	470	

Investigations & Procedures

Name of Test	CA 15-3	Serum CA 125	Serum CEA	Serum Calcitonin	Thyroglobulin + Anti Thyroglobulin Ab	Urine Iodine
Year (2020)	27	58	225	48	285 + 285	00

Teaching and Training

Short Training Observership

1. Dr. Sunday Nweke NinekaAlice, Post Fellow Doctor, Dept of General Surgery, Federal Teaching Hospital Abakaliki PMB Eboni State at Nigeria from 01.07.2019 to 30.06.2020 (One year) 7376902267 (M)

Visiting Professorship

1. Dr. Rajendra Singh, Professor of Pathology, Icahn School of Medicine at Mt. Sinai, New York from 17-18th January, 2020 as visiting professor in the School of Telemedicine and Bio-informatics, SGPGI, Lucknow.

Honors & Awards

S.K. Mishra

- Delivered R. Jothiramalingam Oration of Indian Association of Endocrine Surgeons 2020

Amit Agarwal

- Presidential oration in Annual Meeting of Indian Thyroid Society, Vishakhapatnam, Feb 2020
- Dr. B Narsaiah Endowment Lecture 2020, Telangana society of Surgery, May 2020

Gaurav Agarwal

- 1st Research Day Best Research Paper Award (Professor, Surgical), SGPGIMS, Lucknow, Dec. 2020.
- Annual key-note Oration of Hong Kong Society of Breast surgeons, 2020.
- The President of Breast Surgery International- the Global Society of Breast Surgeons (2019-21)

Gyan Chand

- Delivered the SP Srivastava Oncology Oration of UP Chapter ASI 2020
- Demonstrated one Live Endoscopic Thyroid Surgery via Bilateral Axillary & Breast Approach at Minimally Invasive Live Surgery Workshop during SELSICON NORTH ZONE-2020 held at Govt. Medical College, Patiala, Punjab, from 7th -8th Feb, 2020
- Invited as external expert by Registrar, HemwatiNadan Bahuguna Uttarakhand Medical Education University, Dehradun, Uttarakhand to attend the Board of Studies-Medical Sciences meeting to fixed the syllabus for medical graduates and postgraduates on 18.02.2020 at 11.00 am at Dehradun.

Referee / Reviewer of a Journal:

Amit Agarwal

- Endocrine Surgery- Council Co-ordinator International Association Endocrine Surgeons.

Anjali Mishra

- Indian Journal of Medical Research
- Indian Journal of Surgery
- International Journal of Clinical Endocrinology and Metabolism
- Journal of Cancer Research and Therapeutics

Gyan Chand

- Indian Journal of Surgery
- BMC Elsevier
- Annals of Thyroid

Sabaretnam M

- Indian Journal of Endocrine Surgery

Member of Editorial Committee

Amit Agarwal

- Editor-in-Chief, World J Endocrine Surgery; member Editorial Board THYROID Research & Practice

Anjali Mishra

- Editorship Journal of Thyroid Research August 2020.

Sabaretnam M.

- Indian Journal of Endocrine Surgery

Research Projects

Intramural Research Grant

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	Role of HRPT2 in Parathyroid Tumors	Dr. Amit Agarwal	SGPGIMS, Lucknow	5,00,000/-	01.09.2019 to 31.08.2021
2.	Effects of catecholamine excess on glucose and fat metabolism in Pheochromocytoma & Paraganglioma patients and their reversal following surgical cure: A Prospective Cohort	Dr. Gaurav Agarwal	SGPGIMS Lucknow	4,74,335/-	15.12.2020 to 14.12.2022
3.	Incidence and Prognostic Significance of Androgen Receptors (AR) in Indian Triple Negative Breast Cancer (TNBC)	Dr. Anjali Mishra	SGPGiMS, Lucknow	3,50,000/-	01.09.2019 to 31.08.2021
4.	Axillary lymph node sampling (AS) in Post Neoadjuvant Chemotherapy (NACT) breast cancer patients	Dr. Anjali Mishra	SGPGiMS, Lucknow		05.03.2019 to 05.03.2021
5.	Role of HRPT2 in Parathyroid Tumors.	Dr. Anjali Mishra	SGPGiMS, Lucknow	3,50,000/-	01.09.2019 to 31.08.2021
	Intra operative second generation thyroglobulin estimation vs Frozen section biopsy of suspected Lymph node in Differentiated thyroid carcinoma	Dr. Gyan Chand	SGPGiMS, Lucknow	158400/-	29.09.2018 Closed in March 2020

Extramural Research Grant

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	“Breast Tumor Educated Monocytes (Br-TeMo)”: Signature pattern of TRIMs (Innate Immune Regulators) as Biomarkers for Early Prediction of Breast Cancer Progression and Metastasis”. Funded by. Role: Principal Investigator. Grant Amount: INR Status: ongoing.	Dr. Gaurav Agarwal	SERB, CRG GoI	7,60,000/-	
2.	“Understanding the role of mitochondrial-associated membrane proteins (MAMs) modulated type-I interferon signaling for targeted cell death in ageing breast cancer patients”.	Dr. Gaurav Agarwal	DBT, GOI. Principal Investigator. In collaboration with MSU Vadodara & IISER Pune	16,90,000/-	
3.	Exosomal miRNAs pattern as biomarker for ER/PR positive and negative breast cancer and metastasis”. Funded by: Role: Co-Principal Investigator.	Dr Rajesh Singh,	MSU Vadodra GSBTM, Government of Gujarat	5,90,000/-	
4.	“Targeting mitophagy in breast carcinogenesis through mitochondrial-mediated mechanisms”. Funded by:. Role: Co-Investigator.	Dr Lokendra Sharma, Dept of Molecular Medicine SGP-GIMS Co-I Gaurav Agarwal, Anjali Mishra	ICMR	6,40,000/-	
5.	A Phase III Randomized Controlled study of Inj. Proluton (Hydroxyprogesterone caproate) as single dose preoperative therapy in patients with high risk operable breast cancer” Multicenter study.	Dr. Gaurav Agarwal	National Cancer Grid & TMH Mumbai (for the SGPGIMS site)		
6	Development of patient derived xenograft (PDX) tumor models in nude mice and assessment of tumor associated changes in breast	Dr. Deepak Datta, CSRI Co-PI Dr. Anjali Mishra	CSRI- CDRI	Institutional Grant	
7	Utility of Nuclear Magnetic Resonance Spectroscopy metabolomics for Diseases of Adrenal Gland	Dr. S.K. Mishra	CBMR	Institutional Grant	

8	Utility of Nuclear magnetic resonance spectroscopy metabolomics for diseases of parathyroid gland	Dr. S.K. Mishra	CBMR	Institutional Grant	
9.	A Phase 3, Randomized, Double-blind, Parallel-group, Vehicle controlled, Multi-center Study of the Efficacy and Safety of Granexin Gel in the Treatment of Diabetic Foot Ulcer (GAIT 1)	Dr. Gyan Chand	First String Research, USA		Nov. 2018-Closed in May 2020

Publication

Original Articles

1. Sharanappa V, Mishra A, Bhatia V, Myilvagnan S, Chand G, Agarwal G, Agarwal A, Mishra SK. Pediatric Primary Hyperparathyroidism: Experience in a Tertiary Care Referral Center in a Developing Country over Three Decade ". World J Surg 2021; 45 (2):488-495 Epub October 12, 2020 <https://doi.org/10.1007/s00268-020-05816-4>
2. Sharanappa V, Mishra A, Bhatia V, Mayilvaganan S, Chand G, Agarwal G, Agarwal A, Mishra SK. Pediatric Primary Hyperparathyroidism: Experience in a Tertiary Care Referral Center in a Developing Country Over Three Decades. World J Surg. 2020 Oct 12. doi: 10.1007/s00268-020-05816-4. Epub ahead of print. PMID: 33047232.
3. Valiveru RC, Agarwal G, Agrawal V, Gambhir S, Mayilvaganan S, Chand G, Mishra A, Agarwal A, Mishra SK. Low-cost Fluorescein as an Alternative to Radio- colloid for Sentinel Lymph Node Biopsy-a Prospective Validation Study in Early Breast Cancer. World J Surg. 2020 Oct;44(10):3417-3422. doi: 10.1007/s00268-020-05631-x. PMID: 32504276.
4. Johri G, Chand G, Mishra A, Mayilvaganan S, Agarwal G, Agarwal A, Mishra SK. Endoscopic versus Conventional Thyroid Surgery: A Comparison of Quality of Life, Cosmetic and Overall Patient Satisfaction with Treatment. World J Surg. 2020 Aug 13.doi: 10.1007/s00268-020-05732-7. Epub ahead of print. PMID: 32789681.
5. Jha CK, Mishra A, Yadav SB, Agarwal G, Singh S, Chand G, Agarwal A, Mishra SK. Thyroid dysfunctions and autoimmunity in breast cancer patients: a prospective case-control study. "Arch Endocrinol Metab", Epub August 28, 2020.<https://doi.org/10.20945/2359-3997000000284>
6. Kapoor A, Baronia AK, Azim A, Agarwal G, Prasad N, Misra R, Saraswat VA. Breathability and safety testing of personal protective equipment: the "Human Comfort" factor remains undefined. "Indian J Crit Care Med", 2020: 10.5005/jp-journals-10071-23560 (In press).
7. Mutebi M, Eniu A, El Saghir N, Agarwal G, Adebamowo C, Deboer R, Masood S, Menon M, Nakigudde G, Nganga A, Nixon N, Rositch A, Stevens L, Unger K, Villarreal C, Dvaladze A, Duggan C, Anderson BO. Breast Cancer Treatment – A Phased Approach to Implementation. "Cancer" 2020;126:2365-2378.
8. Johri G, Chand G, Mishra A, Sabaretnam M, Agarwal G, Agarwal A, Mishra SK. Endoscopic versus Conventional Thyroid Surgery: A Comparison of Quality of Life, Cosmetic Outcomes and Overall Patient Satisfaction with Treatment. "World J Surg" 2020Aug15. doi.org/10.1007/s00268-020-05732-7
9. Jha CK, Mishra A, Agarwal G, Chand G, Agarwal A, Mishra SK. Outcome of ¹⁸F-Fluorodeoxyglucose Positron Emission Tomography (PET)-Directed Resections in

- Differentiated Thyroid Carcinoma (DTC): Experience in a Developing Country. "Indian J Surg Oncol". 2020. <https://doi.org/10.1007/s13193-020-01087>. 2020/5/16
10. Mahalakshmi VD, Mayilvaganan S, Ravisankar M, Mathialagan A, Yadav RR, Mishra P, et al. Surgeon-performed ultrasoundanalysis of the status of the vocal cords of post-thyroidectomy patients with intraoperative neuromonitoring in a tertiary referral center. *Int J MollImmuno Oncol* 2020
11. Sabaretnam M, Warsi D, Bhargav PR, Chekavar A, Agarwal A. Indian endocrine surgery websites are they comparable?. *Annals of Medicine and Surgery*.2020 Nov 18.
12. Gupta N, Chand G, Mishra A, Sabaretnam M, Agarwal G, Agarwal A, Mishra SK. A Comparative Study of Clinicopathological Profile and Surgical Outcomes of Endoscopic (Bilateral Axillo-BreastApproach) vs Conventional Total Thyroidectomy for Thyroid Tumors. "Ind J Surg" DOI:10.1007/s12262-020-02267-y. May 2020.
13. Jha CK, Mishra A, Chand G, Agarwal G, Agarwal A, Mishra SK. Truncal Ligation of Inferior Thyroid Artery Does Not Affect the Incidence of Hypocalcaemia After Central Compartment Lymph Node Dissection. "Indian J Otolaryngol Head Neck Surg" (2020). <https://doi.org/10.1007/s12070-020-01879-w>
14. Srivastava A, Agarwal G, Jatoi I, Chintamani, Sarkar D, Paul MJ, Haresh KP, Lohani KR. Asian Society of Mastology (ASOMA) Proposed Standards for Care of Breast Cancer Patients. "Ind J Surg" Apr 2020. <https://doi.org/10.1007/s12262-020-02223-w>
15. Agrawal S, Raza W, Lal P, Das KJM, Agarwal G. Post-chemotherapy target volumes are safe as boost volume for intact breast radiotherapy in locally advanced breast cancer. "Reports Practical Oncol Radiotherapy", 2020;25(2):266-270.
16. Yadav R, Lal P, Agarwal S, Misra S, Verma M, Das KJM, Kumar SKS, Kumar A, Mishra SK, Agarwal A, Agarwal G, Mishra A, Chand G, Verma AK, Kumar S. Comparative retrospective analysis of locoregional recurrence in unselected breast cancer patients treated with conventional versus hypofractionated radiotherapy at a tertiary cancer center? "J Can Res Ther" [Epub ahead of print] [cited 2020 Feb 24].
17. Bichoo RA, Yadav SK, Mishra A, Lal P, Chand G, Agarwal G, Agarwal A, Mishra SK. Fungating Breast Cancer: Experience in Low and Middle Income Country. "Indian J Surg Oncol". 2020 Jun;11(2):281-286. doi: 10.1007/s13193-020-01040-7. Epub 2020 Feb 19. PMID: 32523276
18. Jha CK, Mishra A (corresponding Author), Pradhan PK, Gambhir S, Chand G, Agarwal G, Agarwal A, Mishra SK. Outcome of 18f-Fluorodeoxyglucose Positron Emission Tomography (PET) Directed Resections in Differentiated Thyroid Carcinoma (DTC): Experience in a Developing Country (Accepted). *Indian J Surg Oncol* Published online 16 May 2020 DOI 10.1007/s13193-020-01087-6
19. Jha CK, Mishra A (corresponding Author), Chand G, Agarwal G, Agarwal A, Mishra SK. Truncal Ligation of Inferior Thyroid Artery Does Not Affect the Incidence of Hypocalcaemia after Central Compartment Lymph Node Dissection. *Ind J OtolLaryngol Head Neck*
20. Mishra A (corresponding Author), Kumari Niraj, Jha CK, Bichoo RA, Mishra SK, Krishnani N, Mishra SK. Distribution and Prognostic Significance of Estrogen Receptor á (ERá), Estrogen Receptorâ (ERâ) and Human Epidermal Growth Factor 2 (HER-2) Receptors in Thyroid Carcinoma *JTR* vol. 2020, Article ID 6935724, 8 pages, 2020. <https://doi.org/10.1155/2020/6935724>.
21. Chand G, Gupta N, Johri G Natural Orifice Endoscopic Thyroidectomy via Transoral Vestibular Approach (TOVA): Single Surgeon Experience from North India, accepted in *Indian J Otolaryngol Head Neck Surg* (June -2020). IJOO-D-20-00118

22. Chand G. Rizwan A Immunological Oncogenic Factors in Differentiated Thyroid Cancer, Mini Review, Open Access Journal of Endocrinology, May 2020.
23. Chand G, Johri G. Extracervical Endoscopic Thyroid Surgery via Bilateral Axillo-Breast Approach (BABA). J Minim Access Surg. 2020 Apr-Jun;16(2):190-194.
24. Chand G. Gupta N A Comparative Study of Clinico-Pathological Profile and Surgical Outcomes of Endoscopic (Bilateral Axillo Breast Approach) versus Conventional Total Thyroidectomy for Thyroid Tumors accepted in Indian J O Surg-Jan 2020.
25. Chand G. Gupta N. Changing paradigms in Endoscopic Thyroid Surgery: A Comparison between Scarless-in-the Neck Axillo-Breast Approach and Totally Scarless Transoral Approach' accepted in J Minim Access Surg. Jan 2020

Letter to the Editor

1. Krishna A, Sharanappa V, Mishra A, Mishra SK Comment on Autofluorescence imaging of parathyroid glands: An assessment of potential indications. Surgery. 2020 Jul 26:S0039-6060(20)30383-4. doi: 10.1016/j.surg.2020.06.020. Online ahead of print
2. Chanthar KMMV, Agarwal G. Comment on: Risk Factors of Redo Surgery After Unilateral Focused Parathyroidectomy - Conclusions From a Comprehensive Nationwide Database of 13,247 Interventions Over 6 Years. "Annals Surg", Dec 23, 2020, Publish Ahead of Print. doi: 10.1097/SLA.0000000000004724
3. Hoysal DH, Agarwal G. Letter to the Editor: The Impact of Neoadjuvant Chemotherapy on Margin Re-excision in Breast-Conserving Surgery. World J Surg (press). Dec 2020.
4. Hoysal DH, Agarwal G. Letter to the Editor: Efficacy of Microwave Ablation in the Treatment of Large (≥ 3 cm) Benign Thyroid Nodules. World J Surg (press). Dec 2020.
5. Mayilvaganan S, Vnssvams MD. Letter to the Editor: A Prospective, Randomized, Controlled Comparative Study of Three Energy Devices in Open Thyroid Surgery: Thunder beat, and Ligasure. Journal of Endocrine Surgery. 2020 Mar 1;20(1):1-.
6. Sabaretnam M, Mahalakshmi DVNSSVAMS, Matoo S, et al. Toothpaste Sign in Thyroid Surgery. World J EndocSurg 2020;12(1):45.
7. Mattoo S, Mahalakshmi V, Dhanda M, Mayilvaganan S, Agarwal A. Letter to the Editor: "The conundrum of < 2 cm pancreatic neuroendocrine tumors: A preoperative risk score to predict LN metastases and guide surgical management". Surgery. 2020Feb;167(2):513-514. doi:10.1016/j.surg.2019.06.034. Epub2019PMID: 31399215.
8. Dhanda M, Mayilvaganan S, Mahalakshmi V, Mattoo S, Agarwal A. Letter to Editor: The Significance of Histologically "Large Normal" Parathyroid Glands in Primary Hyperparathyroidism. World J Surg. 2020 Jul;44(7):2440. doi: 10.1007/s00268-020-05439-9. PMID: 32107591.
9. Sharanappa V, Pradhan S, Mishra A. Letter to editor in response to the article Parathyroidectomy for patients with secondary hyperparathyroidism in a changing landscape for the management of end-stage renal disease" by Willemijn van der Plas et al published in Surgery <https://doi.org/10.1016/j.surg.2020.12.013>

Book Chapter

1. Vishvak Chanthar KMM, Agarwal G. Symptoms and Natural history of primary hyperparathyroidism. In Mishra AK, Singh KR et al. (Eds). "Endocrine Surgery: A South Asian Perspective". CRC Press, Francis & Taylor Inc, London UK. May 2020. (In Press)

Conference Presentation

International

S.K. Mishra

- Chaired on scientific Session on Mechanism of injury and how to avoid conference held on 17th Biennial Meeting of the Asian Association of Endocrine Surgeons at Melbourne, Australia on 5-7th March, 2020
- Chaired on scientific Session on Continuous or Intermittent Monitoring: Recent Advances in IONM conference held on 17th Biennial Meeting of the Asian Association of Endocrine Surgeons at Melbourne, Australia on 5-7th March, 2020
- Chaired on scientific Session on Importance of IONM in ESLN conference held on 17th Biennial Meeting of the Asian Association of Endocrine Surgeons at Melbourne, Australia on 5-7th March, 2020
- Chaired on scientific Session on ONM: Cost Effective Techniques conference held on 17th Biennial Meeting of the Asian Association of Endocrine Surgeons at Melbourne, Australia on 5-7th March, 2020

Amit Agarwal

- Deliver lecture on scientific session on symposium on Asymptomatic Retrosternal Goiter: Operate or Not ? conference held on 17th Biennial Meeting of the Asian Association of Endocrine Surgeons at Melbourne, Australia on 5-7th March, 2020.

Anjali Mishra

- Invited Chairperson on scientific session on symposium on One: Interesting Cases 17th Biennial Meeting of the Asian Association of Endocrine Surgeons at Melbourne, Australia on 5-7th March, 2020.

Gyan Chand

- Poster presentation on scientific session of symposium 17th Biennial Congress of Asian Association of Endocrine Surgeons-AsAES-2020", at Melbourne, Australia from 05.03.2020 to 07.03.2020
- Chaired on scientific session on Symposium on Medical Treatment of Advance Thyroid cancer at 17th Biennial Congress of Asian Association of Endocrine Surgeons-AsAES-2020", at Melbourne, Australia from 05.03.2020 to 07.03.2020

National

Amit Agarwal

- Moderator for Panel Discussion Panel on symposium on Thyroid Cancer DTC in the Indian Thyroid Society (ITSCON- 2020) at Novotel, Visakhapatnam from 89th February, 2020

Gaurav Agarwal

- Deliver Lecture on scientific session on symposium on Oncoplastic vs. Conventional BNCS and chairing session on: Radiation therapy and breast reconstruction-Basics to latest, Conservation of breast and axilla post chemo therapy in the 9th Annual Conference of Breast Reconstructive and Aesthetic Surgeons Association (BRASA) BRASCON 2020 at Vadodara, Gujrat on 24-26th January, 2020.

- Panelist on symposium on Medullary Thyroid Carcinoma in the & Panel: Recurrent and Persistent hyperparathyroidism CMC Thyroid Master Class 2.0 at CMC, Vellore on 6-7th February 2020.
- Invited as a guest faculty on symposium on Oncological outcomes after Breast Conservation Surgery in the ESSO Adv Course on Oncoplastic Breast Surgery at Jaipur on 27-29th February, 2020

Gyan Chand

- Invited as a Guest Faculty on scientific session symposium on Mid Term Annual Conference of Indian Association of Surgical Oncology – MID CON IASO 2020 at Tirupati on 29th Feb to 1st March, 2020
- Invited as a Guest Faculty on symposium on 5th Edition of Year Review: Breast Cancer Conference at Tata Memorial Hospital, Parel, Mumbai on 18-19th January, 2020.
- Invited as a Guest Faculty on scientific session symposium on Thyroid Surgery at P.G. Master class in Surgery” Under the aegis of UPASI, Dept. of Surgery, IMS, BHU, Varanasi, from 31st Jan to 2nd Feb 2020
- Invited as a Guest Faculty on scientific session symposium on Case Capsule: Solitary Thyroid Nodule at P.G. Master class in Surgery” Under the aegis of UPASI, Dept. of Surgery, IMS, BHU, Varanasi, from 31st Jan to 2nd Feb 2020
- Invited as a Guest Faculty on scientific session symposium on Thyroid Cancer and Personalized Treatment at International Conference on Personalized Medicine: Concept and Role Players” organized by Dept of Personalized & Molecular Medicine and Era College of Pharmacy, Era University, Lucknow on 19th 20th Feb, 2020.
- Invited as a Guest Faculty on scientific session symposium on The Current Classification and Indication of Cervical Lymph node dissection in thyroid cancer at Virtual Annual Conference of Indian Association of Endocrine Surgeons- IAESCON 2020, organized by AIIMS New Delhi, from 10th Sept to 12th Sept. 2020
- Invited lecture on scientific session symposium on Biofilm & its management at National Digital Conclave on Wound Management on 26th Sept. 2020
- Invited as a Panelist on scientific session symposium on Post mastectomy complications, lymphodema & Nutrition on Breast Cancer Awareness for rural Surgeons and MBBS Students by Endocrine Surgery, SGPGIMS, on 17th Oct 2020
- Invited lecture on scientific session symposium on Management of Metastatic Breast Cancer at Breast Surgery Update Organized By, Department of Surgery, Netaji Subhash Chandra Bose medical College, Jabalpur, on 25th Oct 2020
- Invited lecture on scientific session symposium on Remote Access Thyroid Surgery at 13th SELSICON & 12TH IHSCON, Joint National Conference cum Live Operative Workshop, organized by AIIMS New Delhi from 30th to 31st Oct 2020
- Invited Guest Faculty on scientific session symposium on Debate on Endoscopic thyroidectomy should be the standard of care at Master class in Surgery Gurukulam, by Maulana Azad medical College New Delhi from 10th to 14th Dec 2020

Sabaretnam M

- Debate: Treatment of Graves – Surgery in the Indian Thyroid Society (ITSCON- 2020) at Novotel, Visakhapatnam from 89th February, 2020.

- Deliver Lecture on scientific session on symposium on Mastalgia – Current Management and Chairing session on 3D CT Reconstructions for DIEP & Lumpectomy in the 9th Annual Conference of Breast Reconstructive and Aesthetic Surgeons Association (BRASA) BRASCON 2020 at Vadodara, Gujrat on 24-26th January, 2020.

Workshop / Conferences Organized

Gaurav Agarwal

- First National Symposium & Workshop on Digital Pathology & Artificial Intelligence (AI) at the e-Learning Center, Lecture Theatre Complex, SGPGIMS, Lucknow 18th January, 2020
- Breast Course 2020 in Endocrine & Breast Surgery held at SGPGIMS, Lucknow from 15th -16th Feb 2020

Sabaretnam M.

- Conference Organizing committee member of SGPGI Breast Course 2020
- Conference Organizing Secretary of ASRI Midterm CME 2020.

Outstanding Features / Summary

COVID related highlights

Prof. S.K. Mishra has been instrumental in establishing the national medical college (tele-medicine) network and assisting the UP state government in creating and running the e-CCS network; and The department has been instrumental in establishing the national medical college (tele-medicine) network and assisting the UP state government in creating and running the e-CCS network; and the e-OPD system of the institute. On the research front-the department is partnering in studies COVID Surg Week study- an international multi-center study. Prof Gaurav Agarwal has contributed to development of COVID specific protocols for breast cancer management and surgery, and has delivered numerous talks on international, national and local platforms on Breast cancer care during the COVID times; surgical care during the COVID pandemic and resuming elective surgical services during after the pandemic.

Vision of the Department for the next 5 years

- The Department plans to expand its breast health program, diabetic foot program and minimally access and robotic surgery programs and initiate training courses (PDCC and PDF) in these niche areas.



DEPARTMENT OF GASTROENTEROLOGY

STAFF

Name of Faculty Members:

- | | | |
|----|--------------------|----------------------|
| 1. | Dr. V A Saraswat | Professor and Head |
| 2. | Dr. UC Ghoshal | Professor |
| 3. | Dr. Samir Mohindra | Professor |
| 4. | Dr. Praveer Rai | Professor |
| 5. | Dr. Amit Goel | Additional Professor |
| 6. | Dr. Gaurav Pande | Associate Professor |

Students

1. Dr. Akash Mathur, 3rd year DM senior resident, awarded Best DM Senior Resident in SGPGI Award for 2020 during Foundation Day celebrations on 14th December 2020.
2. 1st virtual, online DM (Gastroenterology) final Practical examinations conducted in the Department.

Trainees and Observers in the Department

1. Dr. Hardik Rughwani, Chennai
2. Dr. Devon Gosavi, Chennai
3. Dr. Swapnil Walke, Mumbai
4. Dr. Vipul Chaudhary, Mumbai
5. Dr. Dipti V, Mumbai, Observer
6. Dr. Rahul Jadav, Mumbai
7. Dr. Sanjay Chandnani, Mumbai

Courses

1. Postdoctoral Fellowship courses in Advanced GI Endoscopy and GI Pathophysiology (2 seats).

Patient care services

General Departmental facilities

- | | | |
|----|---|----|
| 1. | Total no. of beds in the department. | 60 |
| 2. | No. of Units in the department. | 03 |
| 3. | Current faculty members in the department | 06 |

Workload in the Department

Jan -March 2020

- | | | |
|----|-----------------------------------|---------|
| 1. | Average daily OPD | 200-300 |
| 2. | Average daily IPD | 60 beds |
| 3. | Average daily bed occupancy rate: | 100% |

April to December 2020

1. Admissions (2020) (Limited and emergency patient due to COVID - 19)
2. Outpatient attendance (2020) E-OPD - 2670
 - OPD (Physical) - New - 521
 - OPD (Physical) - Old - 1037
 - OPD (Physical) - Consul. - 239

Investigations

1. (Laboratory + GI Pathophysiology) : 17628
2. Manometry procedures (Total) : 427
3. Endoscopic procedures : 4850

Honors and Awards**VA Saraswat**

- Elected President of Indian Society of Gastroenterology (2019-2020)
- Elected Vice President of Society of Gastrointestinal Endoscopy in India
- Delivered Prof. FPAntia Memorial Oration awarded by Dept, of Gastroenterology, BYL Nair Hospital and TN Medical College, Mumbai, 8th Feb 2020.
- Delivered Presidential Oration of Indian Society of Gastroenterology, 19th December 2020.
- Member Governing Council, South Asian Association for the Study of Liver
- Associate Editor, Indian Journal of Gastroenterology
- Associate Editor, Journal of Clinical and Experimental Hepatology
- Chairman, Organizing Committee for 60th Annual Conference and 1st Virtual Conference of the Indian Society of Gastroenterology, 19-20 December 2020.
- Organized Annual Meeting of Indian Society of Gastroenterology, UP Chapter, 2019
- Appointed Chairman Hospital Revolving Fund, SGPGI
- Spoke in or moderated about 60 national and 3 international virtual conferences.

UC Ghoshal

- Was conferred Fellow of Royal College of Physician (FRCP), Edinburgh, United Kingdom.
- Warren Marshal Oration of Asian Pacific Association of Gastroenterology
- Selected as Expert Chicago classification of esophageal motility disorder
- Lead member of Overlap consensus team of Asian Pacific Association of Gastroenterology
- Selected as Editor in Chief, Indian journal of Gastroenterology
- Selected as Associate Editor, Digestive Disease
- Only advisory board member from India in Nature Review Gastroenterology and Hepatology.
- Chair, Rome Foundation International Liaison Committee.
- Director of Household Survey of Rome Foundation Global Epidemiology Survey.
- Selected for Warren & Marshall Oration in Asia Pacific Association of Gastroenterology.
- President, Indian Motility and Functional Diseases Association.
- Elected as Governing Council Member of the Indian Society of Gastroenterology.

- Selected as Expert in Uttar Pradesh Council of Science and Technology.
- Invited in several prestigious national and international conferences.

Amit Goel

- Awarded prize for second best oral paper presented at the plenary session at the national conference of the Indian Society of Gastroenterology 2020.
- Nominated as Member, Strategic and Technical Advisory Group (STAG) on Viral Hepatitis in WHO South-East Asia Region wef. Jan 2020 till date

Publications

COVID 19 related

1. Aditya Kapoor, Arvind Kumar Baronia, Afzal Azim, Gaurav Agarwal, Narayan Prasad, Richa Mishra, Vivek Anand Saraswat. Breathability and Safety Testing of Personal Protective Equipment: The “Human-Comfort” Factor Remains Undefined. Indian Journal of Critical Care Medicine(2020): 10.5005/jp-journals-10071-23598.
2. Agarwal, S.D. Chowdhury, S. Sachdeva, V Saraswat, S Mohindra, et al. Low risk of transmission of SARS-CoV2 and effective endotherapy for gastrointestinal bleeding despite challenges supports resuming optimum endoscopic services. Digestive and Liver Diseases 2020; <https://doi.org/10.1016/j.dld.2020.10.009>.
3. Ghoshal UC, Ghoshal U, Dhiman RK. Gastrointestinal and Hepatic Involvement in Severe Acute Respiratory Syndrome Coronavirus 2 Infection: A Review. J ClinExpHepatol. 2020 Nov-Dec;10(6):622-628. doi: 10.1016/j.jceh.2020.06.002. Epub 2020 Jun 11.
4. Ghoshal UC, Ghoshal U, Mathur A, Singh RK, Nath A, Garg A, Singh D, Singh S, Singh J, Pandey A, Rai S, Vasanth S, Dhiman RK. The Spectrum of Gastrointestinal Symptoms in Patients with Coronavirus Disease-19: Predictors, Relationship With Disease Severity, and Outcome, Clinical and Translational Gastroenterology: December 2020 - Volume 11 - Issue 12 - p e00259 doi: 10.14309/ctg.0000000000000259
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7. Philip M, Lakhtakia S, Aggarwal R, Madan K, Saraswat V, Makharia G. Joint Guidance from SGEI, ISG and INASL for Gastroenterologists and Gastrointestinal Endoscopists on the Prevention, Care, and Management of Patients With COVID-19. J Clin Exp Hepatol 2020; 10:266-270.
8. Schmulson M, Ghoshal UC, Barbara G. Managing the Inevitable Surge of Post-COVID-19 Functional Gastrointestinal Disorders. Am J Gastroenterol 2020 Dec 3. doi: 10.14309/ajg.0000000000001062.
9. Siah KTH, Rahman MM, Ong AML, Soh AYS, Lee YY, Xiao Y, Sachdeva S, Jung KW, Wang YP, Oshima T, Patcharatkul T, Tseng PH, Goyal O, Pang J, Lai CKC, Park JH, Mahadeva S, Cho YK, Wu JCY, Ghoshal UC, Miwa H. J. The Practice of Gastrointestinal Motility Laboratory During COVID-19 Pandemic: Position Statements of the Asian Neurogastroenterology and

Motility Association (ANMA-GML-COVID-19 Position Statements) NeurogastroenterolMotil. 2020 Jul 30;26(3):299-310. doi: 10.5056/jnm20107. 2020

VA Saraswat

- A Aggarwal, SD Chowdhury, S Sachdeva, V Saraswat, et al. Low risk of transmission of SARS-CoV2 and effective endotherapy for gastrointestinal bleeding despite challenges supports resuming optimum endoscopic services. Digestive and Liver Disease2020. <https://doi.org/10.1016/j.dld.2020.10.009>
- Aditya Kapoor, Arvind Kumar Baronia, Afzal Azim, Gaurav Agarwal, Narayan Prasad, Richa Mishra, Vivek Anand Saraswat. Breathability and Safety Testing of Personal Protective Equipment: The “Human-Comfort” Factor Remains Undefined. Indian Journal of Critical Care Medicine(2020): 10.5005/jp-journals-10071-23598.
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- Subrat Acharya, Anil Chandra Anand, Bhaskar Nandi, Anil Arora, SethuBabu, Yogesh Batra, Yogesh K Chawla, Abhijit Chowdhury, Ashok Choudhury, Chundamannil E Eapen, Harshad Devarbhavi, Radha K Dhiman, Siddhartha Datta Gupta, Ajay Duseja, Dinesh Jothimani, Dharmesh Kapoor, Premashish Kar, Mohamad Sultan Khuroo, Ashish Kumar, Kaushal Madan, Bipadabhanjan Mallick, Rakhi Maiwall, Neelam Mohan, AabhaNagral, Preetam Nath, Sarat C Panigrahi, Ankush Pawar, Cyriac A Philips, DibyalochanPraharaj, Pankaj Puri, Amil Rastogi, Vivek A Saraswat, Sanjiv Saigal, Shalimar, Akash Shukla, Shivaram P Singh, Varghese Thomas, Manav Wadhawan. INASL consensus statement on acute liver failure (Part-1): epidemiology, pathogenesis, presentation and prognosis. J ClinExpHepatol. 2020 Jul-Aug;10(4):339-376. doi: 10.1016/j.jceh.2020.04.012. Epub 2020 Apr 28.PMID: 32655238.
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Samir Mohindra

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Praveer Rai

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- Disinfection of Endoscopy and Reusability of Accessories. Praveer Rai. *J Digest Endosc* 2020; 11:61-66

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Gaurav Pande

- Umesh Kumar, Supriya Sharma, Manjunath Durgappa, Nikhil Gupta, Ritu Raj, Alok Kumar, Prabhat Narayan Sharma, Krishna VP, Venkatesh Kumar R, Anupam Guleria, Vivek Anand Saraswat, Gaurav Pande, Dinesh Kumar. Serum metabolic disturbances associated with Acute-on-chronic liver failure in patients with underlying alcoholic liver diseases: An elaborative NMR based metabolomics study. *Journal of Pharmacy and Bioallied Sciences* is accepted for publication on June 18th 2020 (Indexed Journal. Index, PubMed Central, Scimago Journal Ranking, SCOPUS, Web of Science).
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- Supriya Sharma, Gaurav Pande, Mohit Kumar Rai, Vikas Agarwal. Indigenous primary culture protocols for human adult skin fibroblasts, pancreatic stellate cells, and peritoneal fibroblasts, with manuscript number injr_160_20, is accepted for publication on June 29th 2020. Indexed Journal : (Scopus Indexed, Indian National - Society Journal of Rheumatology).
- V. A Saraswat, Gaurav Pandey, Sachin Shetty. Treatment algorithms for managing hepatocellular carcinoma. *J ClinExpHepatol* 2014 Aug;4 (Suppl 3): S80-9. doi: 10.1016/j.jceh.2014.05.004. Epub 2014 Jun 6.
- Revisiting tissue explant culture method for Hepatic Stellate cells and esophageal fibrosis is accepted for publication on December 7th 2020. (Indexed Journal : (Scopus Indexed, Indian National - Society Journal of Rheumatology)

- IL-17 potentiates effects of IL6 by suppressing SOC3 in Hepatic Stellate cells. A potential mechanism in Acute on chronic liver failure. Accepted for publication on December 7th 2020. (Indexed Journal: (Scopus Indexed, Indian National - Society Journal of Rheumatology) .

COVID-19 Related Activities

1. Running GI services including electronic OPD, in-person OPD, ERS, In-patient and Endoscopy services smoothly during the pandemic.
2. Publishing several papers related to the COVID-19 pandemic from the department, which are listed below.

Future plans

These include expansion of the departmental services, with an increase in number of IPD beds, DM seats, faculty members, facilities and infrastructure in the department.

1. Establishing an Advanced GI Endoscopy Center with upgradation of facilities for
2. 3rd space Endoscopy, interventional EUS, advanced ERCP and ESWL.
3. Advanced Centre for Gastrointestinal Pathophysiology and Motility.
4. Development of High Dependency and Intensive Care Unit in Gastroenterology Wards.
5. Setting up multi-specialty, integrated unit for management of acute pancreatitis (AP) and hepatocellular carcinoma (HCC).
6. Increase in number, scope and dimension of research with thrust areas including treatment of chronic liver disease and its complications, all forms of liver failure (ALF, ACLF, CLF), Hepatitis B and C, Hepatitis E, Luminal disorders, GI physiology, gut microbiome and fecal microbiota transplantation, basic research and endoscopic interventions for complications of acute and chronic pancreatitis, interventions, and GI Oncology.
7. Expansion into WHO sponsored projects on Health Promotion and implementation strategies.

DEPARTMENT OF HEMATOLOGY

Faculty

1. Dr. Soniya Nityanand
2. Dr. Rajesh Kashyap
3. Dr. Ruchi Gupta
4. Dr. Khaliqur Rahman
5. Dr. Anshul Gupta
6. Dr. Dinesh Chandra
7. Dr. Sanjeev
8. Dr. Manish Kumar Singh
9. Dr. Chandra P Chaturvedi
10. Dr. Vinod Verma
11. Dr. Kulwant Singh
12. Dr. Naresh Kumar Tripathy
13. Dr. Jalaj Gupta

Departmental Activities

Academic Courses	No. of Seats/Yr
DM Clinical Hematology	03
Post-Doctoral Certificate Course (PDCC) in Hemato-Oncology	04
PDCC in Pediatric Hematology	02
PDCC in Hemato-Pathology	02
Post Doctoral Fellowship (PDF) in Bone marrow transplantation	02
M Sc Medical Biotechnology (Hematology)	6
B Sc Medical Lab Technology (Hematology)	10

The Department is also actively running a PhD program.

Patient Care Services

1. The department of Haematology is the only centre of the State of Uttar Pradesh, performing Haemopoietic Stem cell/Bone Marrow Transplants (HSCT/BMT). Till date 94 transplants have been performed, 63 allogeneic and 30 autologous, with a 100-day mortality of 19% and overall survival of 65%. The department has also performed successfully two haploidentical HSCT.
2. The department has a dedicated Acute Myeloid Leukaemia (AML) ward with 06 HEPA filter isolation rooms. Strict barrier nursing care and ready availability of intensive care facilities in this ward has resulted in less than 5% mortality in AML inductions.
3. The department offers round the clock services for granulocyte transfusions which has dramatically brought down the mortality in patients with neutropenic sepsis, especially in those with multi drug resistant organisms.

4. For highly specialized care and data management, the department runs Specialty OPD Clinics from Monday-Saturday, with each day of the week earmarked for a set of haematological disorders.
5. The Dept. has a nodal role to play in the haemophilia care of the State of U.P. and coordinates with 26 district hemophilia treatment centres of the State, to provide comprehensive Haemophilia care including Clotting Factor Concentrate (CFC) replacement therapy, Immune tolerance induction therapy, physiotherapy and genetic counselling. The National Health Mission (NHM)/UP State Govt provides funds for supply of free CFC to all the haemophilia patients of the State. Dr. Soniya Nityanand has been designated as the State Nodal Officer (Uttar Pradesh) for the Hemophilia Program.
6. The Dept gets financial support for HSCT/BMT of thalassemia patients, under an MoU signed between the Coal India Limited (CIL)-Ministry of Health & Family Welfare (MoHFW) and SGPGIMS, in 2018. In addition, the Department also offers services for haemoglobinopathy diagnosis, genetic counselling of families and State Govt supported free transfusion support and chelation for thalassemic children.
7. The Dept through the Cuddles Foundation, is one of the few centres in the country offering nutritional support to its Paediatric patients, which plays a vital role in the outcome to chemotherapy in paediatric patients

New departmental activities/ facilities

Clinical Services:

1. Dr Soniya Nityanand, Professor & Head of the department took charge as State Nodal Officer (Uttar Pradesh) in 2019 for the Hemophilia Control Program under National Health Mission (NHM), Ministry of Health & Family Welfare (MoH&FW), Govt. of India, which is responsible for free factor replacement therapy to all hemophilia patients across the state at 26 district hemophilia treatment centres.
2. The Department of Haematology became the Nodal department for co-ordinating haemophilia care services in the state and received funds of Rs 48 Crores (Rs 37 Crores from National Health Mission (NHM), Ministry of Health & Family Welfare, Govt. of India & Rs 11.0 crores from U.P. Govt.) for providing Clotting Factor Concentrates (CFC) to all the haemophilia children in the state of U.P free of cost.
3. National Health Mission (NHM) approved the Program Implementation proposal (PIP) of Rs 1.02 crores submitted by the department of Haematology for strengthening haemophilia care services in the state that includes establishment of UP hemophilia Registry, activation of physiotherapy centres at 08 hemophilia treatment centres, installation of U.P. Hemophilia website, ensuring safe storage of anti hemophilic Factors by procurement of lab refrigerators at all the district treatment centres and generating awareness about the disease by training physicians & nurses in the haemophilia care & management.
4. The department is presently running a comprehensive thalassemia care program and is one of the major referral centres for stem cell transplant in thalassemia children. The Bone marrow transplant program for thalassemia children is being supported by Coal India Limited (CIL) in collaboration with Ministry of Health & Family Welfare (MoH&FW), Govt. of India for providing financial assistance of Rs 10.0 Lakhs for each Bone marrow transplant being performed at our centre. Till date, the department has successfully performed 04 BMT in thalassemia major kids under this program.

5. NHM approved 02 Program Implementation proposals (PIP) amounting to Rs 1.19 crores submitted by the department for improving thalassemia care services in the state that includes establishment of thalassemia registry of the state, establishment of 10 bed thalassemia day care ward at Department of Hematology, SGPGI, Lucknow; establishment of the nodal laboratory for screening and diagnosis of hemoglobinopathies, establishment of T2-MRI facility in the state for monitoring cardiac and iron overload in thalassemia, mass screening of carriers of the disease in 5 districts around Lucknow to ascertain the disease frequency in this part of the country in all individuals ≤ 35 years, by holding frequent health camps and training of the medical personnel in thalassemia care across the state.
6. The department continued to offer its **haematological services during COVID-19 pandemic** and country wide lockdown with 1680 In-patient admissions and 1843 day-care chemotherapies that were administered during the last 6 months of COVID pandemic (April-October 2020). Further it also contributed to COVID patient care by deputing faculty and senior residents to Rajdhani COVID Hospital (RCH) for COVID-19 patient management.

Laboratory services:

1. Establishment of Microbial Hematology Laboratory: The Dept of Hematology established Microbial Hematology Lab with Galactomannan Enzyme Immuno Assay (GM-EIA) as a routine test for the diagnosis of Invasive Aspergillosis (fungal Infection). Other tests including Aspergillus DNA Assay (ADA) and Lateral Flow Assay (LFA) are currently being standardized to evaluate their diagnostic value for Invasive Aspergillosis. These tests will not only provide rapid diagnosis of IA but also serve as surrogate markers to follow the efficacy of anti-fungal treatment and thus would be important to improve the outcome of BMT/HSCT and leukaemia patients.
2. Establishment of cancer cytogenetics & Fluorescent in situ hybridization (FISH) lab: This is the first lab in the state of U.P to provided cancer cytogenetics services that involve cancer karyotyping, Fluorescent in situ hybridization (FISH) for haematological malignancies. These tests will greatly help the physicians to optimize their treatments according to various prognostic subgroups.
3. Besides these routine laboratories, the department has recently initiated Community outreach program for the screening of thalassemia carriers, through a Program Implementation Proposal funded by National Health Mission India under which free HPLC testing is being offered to antenatal females.

New Academic courses started

1. Post Doctoral Fellowship (PDF) Bone marrow transplantation
2. Post Doctoral Certificate Course (PDCC) Pediatric Hematology
3. Post Doctoral Certificate Course (PDCC) Hematopathology

Honors & Awards

1. Dr Khaliqur Rahman, Additional Prof, Best Paper Award (First Prize) at 4th EHA-ISHTM tutorial held at Chandigarh, 28th - 29th Feb 2020.
2. Dr Mousumi Kar (PDCC student) and Dr Preeti Khokhar (PDCC Student) had won 1st and 2nd prize, respectively, in the Hematology-Quiz, held during RGCON, February 2020 in New Delhi.
3. Dr. Nihar Desai (DM Student) and Dr. Faheema Hasan (DM Student) had participated and won 1st prize in the Myeloma-Quiz, held during Indian Myeloma Congress, 2020 in Hyderabad on 12th January, 2020.

4. Dr Khaliquir Rahman, Additional Prof, Best Paper Award, (Second Prize), Oral presentation, HEMATOCON 2020-Virtual, 21st – 22nd Nov.
5. Jyotika Srivastava, PhD student, First Prize Oral presentation, HEMATOCON, 2020.

Extramural Grants: Total grants-13

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of sanction and duration
1.	Deciphering the role of bone marrow mesenchymal stem cell derived exosomes in the pathobiology of aplastic anemia	Dr. Soniya Nityanand	Dept. of Biotechnology (DBT), Govt. of India, New Delhi	Rs 62,00,000/-	2020-2023
2.	Evaluation of Cardiomyogenic Potential of cKit ⁺ Human Amniotic Fluid Mesenchymal	Dr. Soniya Nityanand	DST-SERB, Gov of India, New Delhi	Rs 50,00,000/-	2019-2022
3.	Emicizumab Prophylaxis in Haemophilia A patients with inhibitors	Dr. Soniya Nityanand	NHM, Govt. of India	Rs 4.0 Crores	2019-2021
4.	Strategies Towards Early Diagnosis & Improving Treatment Adherence in Thalassemia	Dr Anshul Gupta	NHM, Govt. of India	86 Lakhs	2019
5.	Strategies for early detection and counseling of thalassemia carriers	Dr Ruchi Gupta	NHM, Govt. of India	33 Lakhs	2019
6.	Strengthening Hemophilia care services in U.P.	Dr Dinesh Chandra	NHM, Govt. of India	1.02 crore	2020
7.	Deciphering Role of Epigenetic Mechanisms in Normal and Malignant Hematopoiesis	Dr. Chandra Prakash Chaturvedi	Wellcome Trust DBT India Alliance	3,60,55,580/-	2017-2022
8.	Generation and differentiation of foot print free human induced pluripotent stem cells into pancreatic β -cells: A giant leap toward a clinical-grade cell source for diabetes treatment	Dr. Vinod Verma	DST-SERB, Gov of India, New Delhi	36,28,000/-	2019-2022
9.	Generation of Bioengineered Human Pancreatic Organoid Model for Environmental Diabetogens Screening: A step towards targeted therapy for Diabetes	Dr. Vinod Verma	ICMR, New Delhi	Rs 50,00,000/-	2020-2023

10.	Generation and differentiation of foot print-free goat (<i>Capra hircus</i>) iPSCs into muscle cells: A step forward for test tube meat production	Dr. Vinod Verma	DST-SERB, Gov of India, New Delhi	Rs. 47,02,000 Lakhs	2019-2022
11.	Understanding the epigenetic basis of lympho-myeloid switch: An escape mechanism from CD19 ⁺ CAR T-cell therapy	Dr. Kulwant Singh	ICMR, New Delhi	Rs 50,00,000/-	2020-2023
12.	Understanding the molecular basis of MEF2D-rearranged oncogenic fusion proteins in Leukemogenesis	Dr. Kulwant Singh	DST-SERB, Gov of India, New Delhi	Rs 28,47,380/-	2020-2022
13.	Investigating molecular and cellular mechanisms of therapy-induced plasticity in colon cancer	Dr. Jalaj Gupta	ICMR, New Delhi	Rs 52,00,000/-	2020-2023

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Soniya Nityanand

- Chandra D, Gupta R, Rahman K, Singh MK, Nityanand S. Clinico-pathological spectrum of Glanzmann Thrombasthenia. *Res PractThrombHaemost*, 2020; 4 (Suppl 1): PB1503
- Chauhan P, Gupta A, Kumar S, Bishnu A, Nityanand S. Palmar-plantar erythrodysesthesia associated with high-dose methotrexate: Case report. *Cancer Rep (Hoboken)*. 2020 Oct; 3(5):e1270. doi: 10.1002/cnr2.1270. Epub 2020 Aug 7.
- Ghoshal U, Kalra SK, Tejan N, Ranjan P, Dey A, Nityanand S. Prevalence and Genetic Characterization of Cryptosporidium and Microsporidia Infecting Hematological Malignancy Patients. *ActaParasitol*. 2020 Nov 13. doi: 10.1007/s11686-020-00307-x. Online ahead of print.
- Gupta R, Sanjeev, Rahman K, Parashar Y, Singh M K, Chandra D, Gupta A, Nityanand S. Morphological characteristics, cytogenetic profile and outcome of RUNX1-RUNX1T1 positive Acute Myeloid Leukemia; Experience of an Indian tertiary care center. *Int J Lab Hematol*. 2020 Feb;42(1):37-45. doi: 10.1111/ijlh.13121. Epub 2019 Nov 14. PMID: 31725954
- Mittal N, Gupta R, Rahman K, Sing P, Panda I, and Nityanand S. A case of paraneoplastic hyper leukocytosis closely mimicking chronic neutrophilic leukemia. *J Cancer Res Ther*, 2020, 16:186-188.
- Rahman K, Chandra D, Singh MK, Gupta R, Sharma A Paul P, Kumar Sharma S, and Nitynanad S. Mutant specific anti-calreticulin antibody (CAL2) immunohistochemistry as screening test for calreticulin (CALR) mutant testing. *Int J Lab Hematol*, 2020; In Press.
- Rahman K, S Gupta, R Gupta, and Nityanand S. Microfilareae in bone marrow aspirate of a case of myelofibrosis: a cause or coincidence? *J Cancer Res Ther*, 2020; 16: 164-166.
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- Srivastava J, Chaturvedi CP, Rahman K, Gupta R, Sharma A, Gupta A, Chandra D, Yadav S, Singh MK, Nityanand S. Differential expression of miRNAs and their target genes; Exploring a new perspective of acquired aplastic anemia pathogenesis. Int J Lab Hematol, 2020, Jun 3. doi: 10.1111/ijlh.13245. Online ahead of print.

Book Chapter

1. Nityanand S. "Bone marrow derived stem cells stem cells beyond hematopoietic reconstitution" in Monograph of XI Annual Ranbaxy Science Foundation Symposium on "Stem Cell Research: From Bench to Bedside", 2005.
2. Nityanand S. "Aplastic Anemia-Immune modulation" in Monograph of VIII Ranbaxy Science Foundation Symposium on "Advances in Hematopoietic Stem Cell Transplantation", 2000.

Khaliquir Rahman

- Gupta R, Sanjeev, Rahman K, Parashar Y, Singh M K, Chandra D, Gupta A, Nityanand S Morphological characteristics, cytogenetic profile and outcome of RUNX1-RUNX1T1 positive Acute Myeloid Leukemia; Experience of an Indian tertiary care center. International Journal of Lab hematology. 2020;42 (1):37- 45 DOI: 10.1111/ijlh.13121.
- Gupta R, Yadav S, Mittal N, Rahman K, Sharma A, Gupta A, Nityanand S. Clinico-pathological spectrum of Hairy cell leukemia: a single center study with brief review of Indian Literature. J Can Res Ther 2020;16:120-126.
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- Rahman K, Gupta T, Chandra D, Gupta R, Singh MK, Sarkar M, Sanjeev, Nityanand S Hepatosplenic T cell Lymphoma diagnosed using flow Cytometry. A single centre study of 12 cases from North India. J Can Res Ther 2020. Accepted. AOP

Sanjeev

- Sujeet Kumar, Sanjeev, Khaliquir Rahman, Manish Kumar Singh, Dinesh Chandra, Anshul Gupta, Ruchi Gupta, Rajesh Kashyap & Soniya Nityanand Waldenström Macroglobulinemia: Clinico-pathological Profile and Treatment Outcomes of Patients from a Tertiary Care Centre of North India. <https://doi.org/10.1007/s12288-020-01382-w>
- Gupta R, Sanjeev, Parashar Y, et al. Morphological characteristics, cytogenetic profile, and outcome of RUNX1-RUNX1T1-positive acute myeloid leukemia: Experience of an Indian tertiary care center. Int J Lab Hematol. 2020;42(1):37-45. doi:10.1111/ijlh.13121

Chandra Prakash Chaturvedi

- Kulwant Singh & Chandra Prakash Chaturvedi. Stem Cell Aging: An Epigenetic Perspective. (Invited book chapter: Nova Publication, Current Challenges and Management of Diseases In The Elderly Population, 2020, page-1-56). (Corresponding author).

Kulwant Singh

- Kulwant Singh & Chandra Prakash Chaturvedi. Stem Cell Aging: An Epigenetic Perspective. (Invited book chapter: Nova Publication, Current Challenges and Management of Diseases in The Elderly Population, 2020, page-1-56). (First and Corresponding)

Vision of the Department for the next 5 years

1. Expansion of the HSCT/BMT Program
2. HSCT/BMT for Thalassemia and other genetic hematological disorders
3. Expansion of the haploidentical & Matched Unrelated Donor HSCT/BMT Program
4. Clinical trials with mesenchymal stem cells and by graft engineering for improving the outcome of HSCT/BMT (This work will be done within the Stem Cell Research Center)

Establishment of Centre for Excellence in haemoglobinopathies diagnosis and management

1. Providing comprehensive care to patients with thalassemia, sickle cell anemia and other rare haemoglobinopathies under single roof
2. Increase the scope of Bone Marrow Transplantation in these patients as this is the only curative option
3. Expand the scope of thalassemia carrier screening services in the state by providing free of cost prenatal testing to the at-risk population of the state

Establishment of advanced treatment facilities for Leukemias, Coagulation, Thrombotic disorders

1. Introduction of Next generation sequencing based testing for malignant haematological disorders and HLA typing and integrating the results for better patient care
2. Establishment of therapeutic Drug monitoring lab for assays of various cytotoxic drugs as well as antifungals in anti leukemia treatment.
3. To expand the spectrum of diagnostic coagulation tests including rare clotting factor assays
4. To develop comprehensive Hemophilia treatment centre

Establishment of Cellular therapy centre in the country

1. To develop facility for indigenously manufactured CAR-T cells and NK cell therapy for relapse & refractory leukemia and Multiple Myeloma patients.

Expanding Haematology training services

1. To train manpower in hematology and to disseminate this knowledge to peripheral areas of the country
2. The department plans to increase its D.M. (Clinical Hematology) seats to 06.
3. The department plants to initiate DM Hemato-pathology course in the department.

DEPARTMENT OF HOSPITAL ADMINISTRATION

Department Activities

- (a) **Administrative Activities:** The contribution of Department of Hospital Administration in the institute are mentioned below:
- (i) **Establishment & Commissioning of State Organ & Tissue Transplant Organisation (SOTTO), U. P.:** Department took initiative and pursued it till the notification from Ministry of Health & Family Welfare culminating into Establishment of State Organ & Tissue Transplant Organisation at SGPGIMS for the State of UP. Grant – in – Aid. Dr. Rajesh Harsvardhan, Head, Department of Hospital Administration has been assigned with the responsibility of Nodal Officer, SOTTO for the State of UP. SOTTO has been mandated to take care of:
- Dissemination of information to concerned hospitals, organizations and individuals.
 - Post-transplant patients and live donor follow-up for assessment of graft rejection, survival rates etc.
 - Collection of the data and forwarding to ROTTO for onwards submission to NOTTO.
 - Maintaining and disseminating SOPs, IEC materials and conducting awareness seminars.
 - To provide training.
 - Maintaining the waiting list of patients requiring needing transplants.
 - Facilitating multi organ retrieval from a BSD (Brain Stem Death) donor, coordination from procurement of organs from a donor till the transplantation into a recipient.
 - Matching of recipients with donor and organ allocation as per the designated policy within the state including distribution of organs and tissues.
- (ii) **Contributions during COVID-19 Pandemic:** To ensure operational management of non-clinical/administrative concerns related with execution/delivery of healthcare services of the Institute during COVID-19 pandemic, following contributions were made by the Department:
- Commissioning of Central Control Room at RCH – I & Control Room for RCH – II, Holding Area & Non COVID Areas. Till date, more than 3500 complains were received & resolved through both the Control Rooms.
 - Organized a Workshop cum Training Program on Standard Precautions vis-à-vis COVID – 19.
 - Graded Sanitization of SGPGIMS Hospital & Campus all through the year 2020.
 - Printing & Placement of appropriate IEC Posters for COVID-19 at apt locations.
 - Setting up of the Rapid Response Team to meet with the immediate need for sanitation at RCH – I & II.
 - Procurement of 02 Mortuary Cabinets with the capacity of storing 03 bodies in each cabinet.
 - Contact tracing of COVID-19 Positive cases amongst the staff residing within SGPGIMS Campus through professionally segregated & dedicated teams 24 x 7 x 365.
 - Procurement of 01 x Autoclave (450 Ltrs) for BMW
 - Procurement of 10 x Compactor Compatible Metallic Bins (1100 Ltrs).
 - Procurement of 12 x Manual Sprayer (Backpack).
 - Arranged for the donation of Cleaning Material worth INR 26,00,000.00 (Rupees Twenty Six Lakhs only) through CSR of the firm via NGO Sewamob.

(iii) **Organizational, Structural & Functional Segregation of Department of Hospital Administration:** Following cells are functional under the Department of Hospital Administration:

- **AB-PMJAY Cell:** The Department played a key role in roll out of the AB-PMJAY Scheme in the SGPGIMS. Healthcare facilities are available to eligible beneficiaries under AB-PMJAY at SGPGIMS since 24th January, 2019. When AB-PMJAY was rolled out in SGPGIMS, only 01 AB-PMJAY counter was functional in PMSSY Block. In due course of time, the department activated 02 more such counters at ATC & GH. Presently AB-PMJAY Counter at PMSSY block remains functional 24 x 7. Till date more than 3500 beneficiaries have availed the treatment under AB-PMJAY & in the year 2020, a total of 1,187 beneficiaries availed the treatment under AB-PMJAY at SGPGIMS.
- **Infection Control Cell:** Department has taken lead to establish Hospital Infection Control Cell. It works under the umbrella of SGPGIMS Hospital Infection Control Committee (SHICOM). In the year 2020, the ICNs collected the surveillance data for VAE, CLABSI & CAUTI from the Critical Care Areas. The Infection Control Cell is also involved in regular training of healthcare staff & workers on NSI, IPC Practices & Standard Precautions. During COVID-19 Pandemic, ICNs were involved in training support staff & workers on Standard Precautions. Infection Control Cell is also involved in research, with one resident from the department being allotted thesis topic on infection control practices per year.
- **Patient Safety Cell:** Patient Safety Cell has been established under the Chairmanship of Chief Medical Superintendent. In the year 2020, the Patient Safety Nurse was instrumental in implementing the interventions on Protocol based Nursing handover through ISBAR & Labelling of Medications, in Post OP ICU in PMSSY Block. The Patient Safety Cell is also involved in regular training of healthcare staff & workers on topics related to Patient Safety. During COVID-19 Pandemic, PSN along with ICNs was involved in training support staff & workers on Standard Precautions. Patient Safety Cell is also involved in research, with one resident from the department being allotted thesis topic on Patient Safety per year.
- **Program Study Centre of School of Health Sciences, IGNOU:** Department of Hospital Administration has been notified as Program Study Centre for School of Health Sciences, IGNOU since 2001.
- **Following Teaching Programs are currently in its currency:**
 - o **Bridge Program for Certificate Course in Community Health for Nurses (BPCCHN-IGNOU):** BPCCHN has been developed by Ministry of Health & Family Welfare Govt. of India in collaboration with IGNOU to ensure continuation of comprehensive primary healthcare services at sub-centres, strengthened as Health & Wellness Centres (H&WCs) as prescribed in the New Health Policy. The 6 months Teaching Program in Community Health Nursing has been commenced with College of Nursing. Due to COVID-19 Pandemic in 2020 the teaching program was conducted via online mode.
 - o **Post Graduate Diploma in Hospital and Healthcare Management (PGDHHM):** Department of Hospital Administration, SGPGIMS is a Program Study Centre (PSC) for the PGDHHM since 2001, each Teaching Program consists of three contact programmes which is inclusive of both talk by experts, hospital visit and group presentations. Till date we have conducted 20 Teaching Programmes attended by over 400 students. The Department of Hospital Administration, SGPGIMS as Program Study Centre (PSC) is the only Centre to have bagged 05 Gold Medals out of 19 Convocations held so far. Due to COVID-19 Pandemic in 2020 the teaching program was conducted via online mode which included students from all across India.

- o **Certificate in Health Care Waste Management(CHCWM):** Department of Hospital Administration, SGPGIMS is a Program Study Centre (PSC) for the Certificate in Health Care Waste Management since 2019, each CHCWM Course is of 6 months in duration & Teaching Program consists of one contact program which is inclusive of both talk by experts, hospital visit. Till date we have conducted 02 Teaching Programmes. Due to COVID-19 Pandemic in 2020 the teaching program was conducted via online mode. This has been possible because the department has taken many initiatives over the course of years to have a modern inhouse hi-tech BMW Processing Unit. This is only of its kind in entire North U. P. & has been authorized under BMW Rules, 2016, Air Act & Water Act.
- o **Certificate in First AID(CFAID):** Department of Hospital Administration, SGPGIMS is a Program Study Centre (PSC) for the Certificate in First AID since 2019, each CFAID Course is of 6 months in duration & Teaching Program consists of one contact program which is inclusive of both talk by experts, hospital visit & practical session. Till date we have conducted 02 Teaching Programmes. Due to COVID-19 Pandemic in 2020 the teaching program was conducted via online mode. This program is being run in collaboration with ATC & Department of Emergency Medicine.
- **Quality Cell:** Department of Hospital Administration under stewardship of the Chief Medical Superintendent & Medical Superintendent has been instrumental in establishing Quality Cell under the Department of Hospital Administration, which is working under the umbrella of Institute Accreditation Committee & one Quality Nurse has been detailed for the same. NABH Accreditation process for SGPGIMS has commenced and presently the data is being collected and consolidated in order to complete the online application process by the Quality Cell. Quality Cell is also involved in regular training of healthcare staff & workers on topics related to Quality in Health Care. Quality Cell is also involved in research, with one resident from the department being allotted thesis topic on issues related to Quality in Healthcare per year.
- **Central Condemnation & Disposal Cell (CCDC):**The cell was established under the aegis of Department of Hospital Administration & is responsible for condemnation & disposal of Medical Equipment/ Allied Accessories, Non-Medical Goods, e- Waste & Hospital Records. The department was instrumental in preparing & implementing the SGPGIMS Condemnation Policy in 2015. Subsequent to that, the department for the first time since the inception of SGPGIMS has been successful in ensuring condemnation of medical equipment of a total of 08 clinical departments. 91st GB has approved their condemnation & final disposal of Medical Equipment/ Allied Accessories. In the year 2020, 04 meetings for Condemnation of Non-Medical Goods & 03 meetings for Condemnation of Medical Equipment/ Allied Accessories were convened by the CCDC.
- **Rights to Information(RTI) Cell:** It is the nodal centre for dissemination of all requests made under Rights to Information Act from the SGPGIMS by the informed persons or parties. Department has also implemented the eRTI software & now it has shifted to online RTI Portal of Govt. of U.P. & for this a seminar was organized by the department for training of all the PIOs of SGPGIMS.

(iv) Sanitation Services:

1. Maintaining high standards of cleanliness & general upkeep of all the areas of SGPGIMS.
2. Training, Controlling & Supervision of Sanitary Workers.
3. Control & Issue of Cleaning Materials & Equipment through Sanitary Inspector & Sanitary Officers.

4. Graded Sanitization of SGPGIMS Hospital & Campus during COVID-19 Pandemic.
5. Setting up the Rapid Response Team to meet with the immediate need for sanitation at RCH-I & II during COVID-19 Pandemic.

(v) Bio Medical Waste Management Services:

1. Timely collection, transportation, temporary storage, treatment & final disposal of BMW generated in the patient care areas of SGPGIMS through outsourced workers, as per the provisions of BMW Rules 2016 & amendments thereof.
2. Provision of BMW Bins to the patient care areas of SGPGIMS.
3. Monitoring of provision of BMW Services through rounds by BMW Squad.
4. Ensuring timely renewal of regulatory & statutory licences for provision of BMW Services.
5. Procurement of New Equipment & maintenance of existing equipment at BMW Plant at SGPGIMS.
6. Providing training to healthcare staff & workers w.r.t. BMW Practices.
7. Procurement of 01 x Autoclave (450 Ltrs) for BMW

(vi) CCTV Services:

1. Ensuring timely & comprehensive maintenance and support including posting of appropriate professional to ensure uninterrupted running of IP Based CCTV & Access Control System, round the clock through outsourced service provider.
2. Ensuring 24 x 7 functioning of CCTV Control Room.
3. Ensuring provision of uninterrupted CCTV Services even after the notice of termination of service by the service provider.
4. Training, Controlling & Supervision of Workers of Service Provider.
5. Installation & Operation of CCTV at RCH - I (ATC).

(vii) **National Institute Ranking Framework (NIRF) Ranking:** The Department took initiative and ensured that a separate category for Medical Institutes be created for NIRF Ranking in the year 2018. Subsequent to that, the department has been responsible for obtaining, scrutinizing & homogenizing, uploading & submission of data of SGPGIMS on the online portal for NIRF Ranking. In the year 2020, SGPGIMS has secured 5th Rank in the country from over 100 medical institution.

(viii) **Central Skills Lab:** The Department is playing key role towards establishment of Central Skills Lab in SGPGIMS, which will be instrumental in providing hands on training of Nursing/ Paramedical/ Technical Staff of SGPGIMS & for the entire State of U. P. The Skills Lab has been funded by NHM, UP. The procurement process has been going on.

(b) **Teaching & Training Activities:** Following full time & part time teaching program apart from the training activities were undertaken by the Department in the year 2020:

- (i) **Master's in Hospital Administration (MHA):** This programme was commenced in February 2016 with 02 students which gradually expanded to 06 students in August 2016. With an ongoing fifth batch consisting of five students who joined the department in 2020. In the year 2020, all the residents of MHA 2018 – 20 batch students successfully completed their training. MHA is a full-time residential post graduate teaching program being offered by the department.

- (ii) **Short Term Trainees (STT):** The department also provides training to STT to students pursuing MBA/MHA. During the duration of their training, STT has to submit a project report on various topics such as Infection Control/Patient Safety/HRM/OB e.t.c. Till date the department has provided training to more than 110 STTs. In the year 2020 a total of 11 trainees from other institute/college joined the Department as STT, as a part of their summer internship and out of them 09 have successfully completed the training.
- (iii) **Healthcare Executive Management Development Program(HeXMDP):** Department has been organizing HExMDP under the Capacity Building Program of National Health Mission, Govt. of Uttar Pradesh for the Chief Medical Superintendents/Chief Medical Officers of the District Hospitals/Districts under Govt. of U.P. on the key issues pertaining to Hospital Administration. The Department has so far successfully conducted 6 such programs in past. 02 such programs were scheduled in 2020 but could not be organized due to pandemic. This program has been referred to as model capacity building program in a text book on Public Health published by PGIMER Faculty & printed by Oxford Press, UK.
- (iv) **Department in its quest towards augmenting knowledge base has been organizing multitude of capacity building program, notable amongst them are:**
 - 1. LTP at ATC – Organised by BMWC & HICC, covering Hospital Infection Control Practices, Patient Safety Practices & BMW Practices
 - 2. Cancer Awareness Program on the occasion of World Cancer Day, 4th February, 2020
 - 3. Combined Ameliorative Fire Safety Training
 - 4. Workshop on Standard Precautions vis-à-vis COVID-19 Pandemic for Medical & Paramedical Staff of SGPGIMS
 - 5. Seminar for training PIOs of SGPGIMS on eRTI software of Govt. of U.P.
 - 6. Workshop on Condemnation of Equipment & Non-Medical Goods for RML, Lucknow Faculty & Staff
 - 7. Webinar on Tackling Mental Health Issues & Building Resilience Amongst Frontline Workers During COVID-19 Pandemic on 08th August, 2020 in collaboration with Directorate, Urban Local Bodies, GoUP & supported by, UNDP in India.
 - 8. Webinar on Role of SOTTO w.r.t. it's Statutory Obligations vis-à-vis Retrieval & Transplant Centres on 31st October, 2020
 - 9. Donor Felicitation Program & Public Forum on Fundamentals of Organ Donation on the occasion of 11th Indian Organ Donation Day, on 27th November, 2020
 - 10. Workshop on COVID – 19 BMW: Principles & Practices organized on 05th December, 2020

Research Activities:

- 1. Dr. Ayush Mehrotra: A study to assess the interplay of Human Factors vis-à-vis Patient Safety Culture using Benchmarks while instituting suitable interventions if needed, using WHO Patient Safety Multi - Professional Curriculum Guide tool, to augment the Patient Safety Culture in select settings of a Tertiary Healthcare Teaching Institute in India.
- 2. Dr. Tanvi Arora: A cost analysis study on Total Cost incurred (including Out-of-Pocket Expenditure & Social Cost) during Palliative Care in cases of Head & Neck Cancer at Govt. Regional Cancer Centre in North India, so as to design an evidence based financial package for AB-PMJAY (Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana).

3. Dr.Dimpi Singh: A study to identify Leadership Style of Nurse Managers & its Influence on Organization Citizenship Behavior, Job Satisfaction & Patient Safety Culture, so as to suggest an Evidence Based Feed-forward for preparing guidelines for training of Nurse Managers working in Super Speciality Healthcare Teaching Institute in Northern India.
4. Dr. Arushi Omar: An impact assessment study on appropriate intervention/s w.r.t Antibiotic Prescription Practices at Neurosurgery ICU, subsequent to baseline assessment at a Tertiary Healthcare Teaching Institute in U.P.
5. Dr. Lata Tripathi: A study to assess Knowledge & Attitude of Medical and Nursing Staff vis-à-vis Pharmacovigilance & Adverse Drug Reaction Reporting at a Tertiary Healthcare Teaching Institute in Northern India.
6. Dr. R. Harsvardhan, was awarded a Letter of Appreciation from Dr. Rajneesh Dubey, Addl. Chief Secretary, Govt. of U.P. for his contribution towards improvements in professional management of support services in State Run Medical Colleges in Uttar Pradesh. Dr. R. Harsvardhan & Dr. Ruchi Kushwaha got 1st Prize in Poster presentation in SASH – 2020, AIIMS, New Delhi. Mr. Dikhil CD, Quality Nurse, has been bestowed with “Best Nurse Award” on the occasion of Foundation Day of SGPGIMS on 14th December, 2020.

DEPARTMENT OF MATERNAL AND REPRODUCTIVE HEALTH

STAFF

Name of Faculty Members:

- | | |
|----------------------|----------------------|
| 1. Mandakini Pradhan | Professor |
| 2. Amrit Gupta | Additional Professor |
| 3. Indulata | Additional Professor |
| 4. Neeta Singh | Additional Professor |
| 5. Sangeeta Yadav | Additional Professor |

Senior Resident : 10

Sister-in-Charge : 2

Staff Nurse : 25

Office Staff

LDA: 1

Attendant: 2

OPD Staff

Medical Social Worker : 1

Data entry operator : 2

OPD Attendant including USG room : 3

Residents/Students

DM Student: nil

PDCC student: 3

Senior resident (Hospital Service): 7

PhD Student: 1 (under Dr Amrit Gupta)

Departmental Activities

Patient care Services

OPD

- (a) Old Follow-up: 3261
- (b) New Registration: 1860
- EOPD: 3368

Admission:

Total bed = 24 (including beds in labour room)

Total admission = 452

Investigations & Procedures

Ultrasound (Fetal) = 3934

Prenatal diagnostic Procedures

(amniocentesis, CVS, Cordocentesis) = 232

Number of deliveries = 298

Intra uterine transfusion = 63

Other fetal therapy (Fetal reduction,

fetal shunt, amnioinfusion, amnioreduction,

placental embolization) = 21

Teaching and Training

- Departmental teaching of seminar, journal club, case presentation, faculty lecture: as per schedule. Continued tele-lectures daily during lockdown.
- Combined class: with neonatology once a week and with pediatric surgery once a month.

Short Training

- Observership in Maternal and Fetal Medicine for 6 months by Dr Tuhina

Honors & Awards

Mandakini Pradhan

- Bharat Gaurav Samman by World human rights protection organization (India) March 2020.
- "Nari" award on International women's day March 2020
- "FOGSI CHAMPION" award by FOGSI at Mumbai.

Amrit Gupta

- Elected Vice President National AGOI (Association of Gynaec-Oncologists of India) 2019-21
- Executive Member UPSC-AGOI; 2019-21

Member of Editorial Committee

Mandakini Pradhan

- Journal of Obstetrics and Gynaecology Society of India (JOGI)

Amrit Gupta

- Associate Editor, LOGS Newsletter, Lucknow Obstetrics and Gynecology Society

Indulata

- Indian Journal of Obstetrics and Gynecology
- Indian Journal of Maternal-Fetal & Neonatal Medicine

Referee/Reviewer of a Journal

Mandakini Pradhan

- Journal of Obstetrics & Gynecology of India (JOGI)
- Journal of Fetal Medicine (JOFM)

Amrit Gupta

- IJGO (Indian Journal of Gynecological Oncology)

Indulata

- Indian Journal of Obstetrics and Gynaecology Research
- Indian Journal of Obstetrics and Gynaecology

Research Projects

Intramural

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	Study the effect of HPV infection on pregnancy outcome.	Amrit Gupta	Intramural	4,86,000	2020 to 2022
2.	To study the biomarker Glycosylated Fibronectin as a predictor of gestational diabetes in first trimester in north Indian population: A pilot study.	Indulata	Intramural	3,00,000	Dec 2017- June 2020

Publications

Original Articles

- Kashyap R, Garg A, Pradhan M. Maternal and Fetal outcomes of pregnancy in patients with Immune Thrombocytopenia. J ObstetGynecol India, Nov 2020.
- Gupta A, Varuna V, GhoshI, Gupta NK, Kumar N. Dilemmas in management of Pregnant Patients with Mechanical Prosthetic Valves in Rural and Semi-urban North Indian Population at a Tertiary Care Institution" International Journal Of Scientific Research (Print ISSN: 2277-8179) (accepted).
- Gupta A, Dubey K, Sharma G, Gupta R. Pregnancy with renal diseases: Present scenario in tertiary care institute in northern India, The Journal of Obstetrics and Gynecology of India; Ms. No. JOGI-D-20-00605R1(accepted)
- Lata I, Mishra P. Pregnancy-associated Plasma Protein-A levels with pregnancy outcomes, a preliminary study. Thai J of Obs Gynaecol 2020;28(3):188-194.
- Lata I, Mishra P, Tripathi A. Depression among infertile women attending outpatient department of a tertiary care hospital in Northern India: a cross-sectional study. Int J Clin Obs Gynaecol 2020;4(3):133-137.

- Lata I, Mishra P. To study the association of ABO blood group type with Ovarian Reserve in Infertile Women. Int J ClinObs Gynaecol2020;4(3):75-79.

Case Report

- Lata I, Madelia A, Mandal K. Successful Antenatal Diagnosis and Management of a Rare Case of Congenital Fetal Choledochal Cyst. Maternal- Fetal Medicine 2020(published online in a head of print. MFM_20_045)

Book / Book Chapter

Mandakini Pradhan

- FOGSI GCPR on “Preconception counselling and Genetics”: Editor
- Manual of “Fetus at Risk”: AICOG 2020: Editor
- “Chromosomal Microarray”: FOGSI-ICOG Year Book
- FOGSI check list on “Monitoring during blood transfusion in Obgy practice”: Member

Indu Lata

- Lata Indu. Surgical interventions during Antenatal & Interval period. Clinical handbook on Threatened abortion 2020 by Dr Monika Gupta and Dr SurveenGhumman.

Sangeeta Yadav

- Blood Group Incompatibility in Pregnancy in Common Medical Disorders in Pregnancy: Agra Obstetrics and Gynecology Society Publication

Neeta Singh

- Role of MRI in Pregnancy. In Imaging in Obstetrics and Gynecology. FOGSI Focus. 2020

Review Article

- Pradhan M, Jain, S. Syphilis in Pregnancy. J. Fetal Med. 7, 57–63 (2020)

Conference Presentations

National

Mandakini Pradhan

- 30th January 2020: Rh incompatibility in pregnancy at AICOG 2020
- 8th May 2020: With Clinical Research committee FOGSI World Thalassemia day
- 22nd May 2020: Fetal Surveillance in hypertensive disorders Gorakhpur ISOPARB
- 6th June 2020 : Genetics and Prenatal Diagnosis FOGSI FORCE PG Academic program
- 21st June 2020 : Focus on first trimester conference MOGS
- 25-06-2020 Management of antenatal patient during COVID-19 Tele lecture in eCCS (electronic covid care system) of Uttar Pradesh
- 26th June 2020: Healthy Fetus: Basics of Fetal Medicine and Genetics Kota Obgy Society
- 5th July 2020: First trimester screening for Pre-eclampsia and Genetic abnormality Patna Obgy society
- 21st July 2020: Skin examination in pregnancy ISPAT webinar

- 25th July 2020: Genetic counselling (premarital and Preconception) for visually impaired All India Confederation of the Blind (AICB)
- Gauri Sen, Min. of Defence DRDO, Secretary, All India Confederation of the Blind
- 21st August 2020: Fetal Anomaly: what next Saveetha Medical College & Hospital
- 26th August 2020: Alloimmunisation- Anticipate and Act AMOGS and Jharkhand 4 societies
- 31st August 2020: Tele medicine: Practice guidelines LOGS
- 1st Sept 2020: Genetics for Practising obstetrician www.cmeworld.org/fogsi/
- 5th Sept 2020: Premarital counselling and care: the best horoscope FOGSI: Happy Teacher's day
- 4th Oct 2020: Haemoglobinopathies: national Prospectives ISOPARB Midterm National Conference
- 11th Oct 2020: PG CME FOGSI: Genetics in Obstetrics care
- 15th Oct 2020: Genetics of infertility Young Talent Promotion Committee and Genetics and Fetal Medicine Committee
- 23rd October 2020: Aneuploidy Screening, Teratogenesis, MTP and Legal issue Food and Drug and Medico Surgical Equipment Committee FOGSI
- 8th Nov 2020: Advance sonography FOGSI'S Web conference on Advance Imaging in Obstetrics
- 24th Nov 2020: High risk pregnancy and current position, Genetic polymorphism, Different folate choices, 4th generation folate to counter MTHFR polymorphism Medical disorder in Pregnancy and Genetics and Fetal Medicine Committee
- 9th Dec 2020: Modern Prenatal testing in Pregnancy O to S Obstetrics master class series
- 14th December 2020: Genetics in Modern practice AMOGS Endocrinology committee

Amrit Gupta

- 11.Jan.2020: faculty Lecture- "High sugar during pregnancy could lead to childhood obesity"- Paediatric Nutrition Update, SGPGI, Mini Auditorium
- Skill stations- Shoulder Dystocia; Breech Delivery at 29th Jan- 02 Feb 2020 -at 63rd AICOG2020, Manyavar Shri Kanshi Ram Sanskritik Sthal (Smriti Upvan), Lucknow
- 3rd Jun 2020 Participation in Niraparib Virtual Advisory board Meeting-GSK on Niraparib in management of ovarian cancer
- 20 Jun 2020 -e round table meet Speaker: Topic- Telemedicine: e consultation and e-OPD a viable option during pandemic in LOGS.

Sangeeta Yadav

- 29th Jan to 2ndFeb :All India Congress of Obstetrics and Gynaecology (AICOG-2020), Lucknow: Faculty lecture in workshop on Managing Fetus at Risk on "
- 29th Jan to 2nd Feb : All India Congress of Obstetrics and Gynaecology(AICOG-2020), Lucknow: Chairperson in Fetal illness to wellness in workshop on Managing Fetus at Risk
- 29th Jan to 2nd Feb : All India Congress of Obstetrics and Gynaecology (AICOG-2020), Lucknow: "Causes and Outcome of isolated Fetal Pleural effusion"
- 12th November 2020: Yuva Speaks and Leads Webinar Series: Yuva Key Note Address: "Concept of Hb Electrophoresis and HPLC"

Neeta Singh

- Panelist in Panel Discussion on 'Predicting Aneuploidies - Best way to go' at 62st All India Conference of Obstetrics and Gynecology, Lucknow, February 2020

- 'Timely intervention in fetal growth restriction to prevent still birth'. National Medical College Network (NMCN) tele-lecture, September 2020
- Expert in discussion on 'Breu's Mole in pregnancy', Lucknow Obstetrics and Gynecology Society, September 2020
- Invited lecture on 'Breast and Nipple Problems' in Symposium on Breast feeding for Obstetricians and Pediatricians, organized by Lucknow Neonatology Forum, November 2020.

Workshop/ Conferences Organized

Mandakini Pradhan

- 28th Jan 2020: Convener of workshop "Fetus at Risk" in 63rd AICOG at Lucknow
- 23rd Feb 2020: Fetal Medicine and Genetics Committee workshop along with Agra society of Obstetrics and Gynecology (AOGS)
- 31st Oct 2020: "World Fetus Day" Webinar on "Fetus: Welcome me" as Organiser
- 18th Dec 2020: FOGSI Genetics Webinar series:1 "Chromosomal microarray and it's clinical utility in fetal diagnosis".

Amrit Gupta

- 63rd AICOG2020: Co convener, Workshop-'Fetus at Risk'; on 28th Jan 2020; at Lucknow.

Outstanding Features/Summary

The department established itself as a referral center for complicated pregnancy. Apart from Uttar Pradesh patients were referred from neighboring states like Bihar, Madhya Pradesh, Odisha, Jharkhand etc. Prevention of pregnancy complications by early screening, prenatal diagnosis and prenatal therapy are the thrust area of the department. It's the only center in Uttar Pradesh to have facility for prenatal diagnosis and therapy. It's one of the center in India to have



training course in Maternal and Fetal medicine. The aim of it is to generate more skilled manpower in this field so as to improve maternal and neonatal health indicators of the country.

COVID related highlights

Continued antenatal care during COVID pandemic with care of covid positive pregnant women (n=31) upto December 2020. Prenatal diagnosis and fetal treatment was continued during this pandemic.

Vision of the Department for the next 5 years

- To start DM course in "Maternal and Fetal Medicine"
- Expand the horizon of fetal therapy and to start facilities like fetal laser, fetal bipolar cord occlusion, fetal therapy for congenital diaphragmatic hernia.

DEPARTMENT OF MEDICAL GENETICS

STAFF

Total number of Faculty members	: 6 (4 Clinical; 2 Basic scientists)
Total number of DM/ SR and PDCC students	: 7
Post Doc/ PhD students	: 12
Other research staffs	: 9
Technical and administrative staffs	: 15
Other staffs	: 2

Departmental clinical activities

Activity	Number
OPD patients including E- consultations	2503
Procedures (Anomaly scans; Amniocentesis; CVS etc)	564
Hemophilia care in OPD including physiotherapy	654
Ward admissions including: Thalassemia day care Enzyme replacement therapy Intrathecal Nusinersen therapy Bisphosphonate therapy Treatment of other genetic disorders Hemophilia (Management of complications)	2965 117

Departmental academic activities:

Daily academic (Online) program for students

Patient care activities

Prof. Shubha R Phadke

- Launched state government funded Newborn Screening Program for Uttar Pradesh since 2015 [more than 60000 babies screened]
- Running Thalassemia hypertransfusion program since 1989 [Funding from Uttar Pradesh government since 2016]
- Hemophilia management program funded by Uttar Pradesh government for last 10 years
- Contributed to identification of causative genes for 5 monogenic disorders [OMIM 607539, 615866, 617612 & IFT57, NCAPD2]

Laboratory activities:

Laboratory Name	Tests	
Molecular Genetics	Sanger Sequencing and LD PCR	402
	MLPA	395

Immunogenetics	HLA B27	316
Cytogenetics	Blood karyotype	309
	Prenatal	183
	Cytogenetic Microarray	49
Biochemical Genetics	Enzyme assay	131

Genetic Hematology (Under Dr Sarita Agarwal)

S. No	Test Name	Procedure	No of Tests
1.	Molecular Diagnosis of Fragile X Syndrome	TP-PCR	45
2.	Molecular Diagnosis of Myotonic Dystrophy	TP-PCR	03
3.	Molecular genotyping of Spinocerebellar Ataxia	TP-PCR	04
4.	Fredrich Ataxia (TP-PCR)	TP-PCR	5
5.	Quantitative Fluorescent PCR for aneuploidy detection and maternal contamination	QF-PCR	205
6	Beta Thalassemia	ARMS-PCR, Sequencing	31
7.	Alpha Thalassemia	Gap-PCR	4
8.	MTHFR mutation detection	PCR-RFLP	64
9.	CFTR Common Mutations	PCR	18
10	ACE gene Polymorphism/mutation	PCR-point mutation detection	12
11	Beta thalassemia Screening	Sysmex and Variant analysis	1405
12	Serum Iron	Spectrophotometer analysis	1368
13	Total Iron Binding Capacity	Spectrophotometer analysis	1305
13	Serum Ferritin	ELISA	2113
14	G-6PD Screening	DCIP test	19
15	Osmotic Fragility Curve	Spectrophotometer analysis	15
16	Thalassemia Screening (Dr Shubha Project)	Variant analysis	676

Academic achievements:

Research

Prof. Shubha R Phadke

- Research projects : [15 projects as Principle Investigator, Ongoing -4] 1. Human Genetic Disorders (ICMR Project) (Complete) [worked as a research officer] a. Anthropometric measurements of complex area of development, which are often used in diagnosis of human genetic disorders. b. Double blind randomized trail of periconceptional vitamin supplementation for prevention of Neural Tube Defects 2. Radiological and Anthropometric study of Handigodu disease: A new variety of spondyloepimetaphyseal dysplasia (ICMR project) complete. [worked for data analysis] 3. Feasibility of introducing genetic screening in National Family Welfare

Programme (ICMR Project). (Complete) [worked as a research officer] 4. Control of Thalassemia by Antenatal screening (ICMR Project). Complete [worked as a research officer] 5. Molecular Analysis of Premutation, Mutation and Mosaicism in Fragile X Mental Retardation Families (Department of Science & Technology, Project, Principle Investigator - Dr. S.R. Phadke). Rs. 5,75,000.00/- from 5.9.1998 (Completed) 6. Study of connexin 26 mutations in nonsyndromic deafness in Indian population. (Intramural project: Principle Investigator. Dr. S.R. Phadke (Rs. 1,25,000/-) from 15.5.2001 (Completed) 7. Role of Biotechnology awareness program in prevention of genetic disorders among rural women. Phase I trial (Completed). Phase-II trial. Department of Biotechnology (Completed) 8. Point mutation/microdeletions and SMN (T/C) ratio in spinal muscular atrophy: Phenotype correlation and carrier analysis. (Intramural project) (Coinvestigator) (completed) 9. Genetic Studies In Prader Willi & Angelman Syndrome. Sanctioned intramural project, 2005, (Co- Investigator) (Completed) 10. Creation of Genetic disease registry, DNA banking and EBV transformed cell lines from informative families of rare genetic disorders. ICMR, (Principle investigator) Rs 76 lacs. Started from July 2007 – for 3 years (Completed). 11. ICMR training course in Medical Genetics and Genetic counseling. Indian Council of Medical Research – Rs 3.45 lac (Completed) 12. 'Warfarin Dosing in Relation to CYP2C9 and VKORC Polymorphism in Indian Population' Intramural [Principal Investigator], Rs 2.5 lac, Sanctioned on 4-5-10, period for 2 years. (Completed) 13. 'To create a newborn screening program for preventable causes of mental retardation, and create awareness about it among doctors and women of rural Uttar Pradesh.' A project by Department of Biotechnology. Sanctioned in 17- 05-2010 for Rs 82.85 lakh for 3 years & 6 months [Principal Investigator] (Completed) 14. Mutation analysis of COL1A1 and COL1A2 genes in Indian patients with osteogenesis imperfecta. Indian Council of Medical Research, sanctioned on 29-3-11, Rs 9,30,888/- (Completed) [Principal Investigator] 15. Centre for Molecular Medicine: Indian Council of Medical Research. Rs 499 lac, for 5 years. Sanctioned on 21-3-12. (Completed) [Principal Investigator] 16. Evaluation of utility of cytogenetic microarray in detection of etiology of Prenatally detected malformation Rs 3 lac. Intramural. 1st Nov 2012 to 31st oct 2014 (Completed) [Principal Investigator] 17. Multicentric Collaborative Study of the Clinical, Biochemical and Molecular Characterization of Lysosomal Storage Disorders in India. Principal Investigator – Shubha Phadke. Indian Council of Medical Research (Rs 31.3 lac for 3 years- Sanctioned Dec 2014 - Complete) 18. Genomic studies into limb malformations and related syndromes. Department of Biotechnology. Sanctioned on 03/03/2015 for 3 years. Rs 97,97,160. Principal Investigator – Shubha Phadke. (Completed) 19. The Indian Movement Disorder Registry and Biobank: Clinical and Genetic Evaluation of Movement Disorders in Indian Patients" Sanctioned by Department of Biotechnology for 3 years in Oct 2018 (Principal Investigator – Shubha Phadke) (Rs. 4755520-00) 20. Training of in-service Clinicians from Government Hospitals and Outreach Program for Aspirational Districts", funded by Department of Biotechnology – 3 years from 9th May 2019 (Rs 12364000.00) [Principal Investigator] 21. To study sequence variations in genes involved in chromosome / chromatid separation including cohesin – condensing complex, kinetocore complex and centromeric proteins in mothers of individuals with trisomy 21 to find out the genetic factors predisposing nondisjunction – Intramural project [Principal Investigator] - Approved 2018 – Rs 5 lac 22. Study of genotypes and phenotypes of autosomal recessive osteogenesis imperfecta and search for new genes in patients osteogenesis imperfecta with no mutation in known genes – Sanctioned by Indian Council of Medical Research, sanctioned on 27th August 2019, Rs 21,57,100 for one year [Principal Investigator]

Publication

Original

Prof. Shubha Phadke

Publications of Dr Shubha Phadke in 2020

- Masih S, Moirangthem A, Phadke SR. Renpenning syndrome in an Indian patient. *Am J Med Genet A*. 2020 Feb;182(2):293-295. doi: 10.1002/ajmg.a.61457. PMID: 31840915.
- Pasumarthi D, Gupta N, Sheth J, Jain SJMN, Rungsung I, Kabra M, Ranganath P, Aggarwal S, Phadke SR, Girisha KM, Shukla A, Datar C, Verma IC, Puri RD, Bhavsar R, Mistry M, Sankar VH, Gowrishankar K, Agrawal D, Nair M, Danda S, Soni JP, Dalal A. Identification and characterization of 30 novel pathogenic variations in 69 unrelated Indian patients with Mucopolidosis Type II & III. *J Hum Genet* (2020). <https://doi.org/10.1038/s10038-020-0797-8>
- Nilay M, Phadke SR. Pearson Syndrome: Spontaneously Recovering Anemia and Hypoparathyroidism. *Ind J Pediatr*. 2020 Dec;87:1070-1072. doi: 10.1007/s12098-020-03333-9.
- Agrawal N, Phadke SR. Peters-Plus with Anal Atresia and a Novel Frameshift Mutation. *Indian J Pediatr*. 2021 Feb;88(2):184-185. doi: 10.1007/s12098-020-03416-7.
- Girisha KM, Pande S, Dalal A, Phadke SR. Untapped opportunities for rare disease gene discovery in India. *Am J Med Genet A*. 2020 Dec;182(12):3056-3059.
- Gangadharan H, Singh K, Phadke S, Aggarwal A. Clinical Sequencing Solves a Diagnostic Dilemma by Identifying a Novel Pathogenic Variant in USB1 Gene Causing Poikiloderma with Neutropenia. *Indian J Pediatr*. 2020 Sep 16. doi: 10.1007/s12098-020-03502-w.
- Nampoothiri S, Yesodharan D, Bhattacharjee A, Ahamed H, Puri RD, Gupta N, Kabra M, Ranganath P, Bhat M, Phadke S, Radha Rama Devi A, Jagadeesh S, Danda S, Sylaja PN, Mandal K, Bijarnia-Mahay S, Makkar R, Verma IC, Dalal A, Ramaswami U. Fabry disease in India: A multicenter study of the clinical and mutation spectrum in 54 patients. *JIMD Rep*. 2020 Aug 15;56(1):82-94. doi: 10.1002/jmd2.12156. PMID: 33204599; PMCID: PMC7653245.
- Kruszka P, Addissie YA, Tekendo-Engong C, Jones KL, Savage SK, Gupta N, Sirisena ND, Dissanayake VHW, Paththinige CS, Aravena T, Nampoothiri S, Yesodharan D, Girisha KM, Patil SJ, Jamuar SS, Goh JC, Utari A, Sihombing N, Mishra R, Chitrakar NS, Iriele BC, Lulseged E, Megarbane A, Uwineza A, Oyenusi EE, Olopade OB, Fasanmade OA, Duenas-Roque MM, Thong MK, Tung JYL, Mok GTK, Fleischer N, Rwegerera GM, de Herreros MB, Watts J, Fieggen K, Huckstadt V, Moresco A, Obregon MG, Hussien DF, Ashaat NA, Ashaat EA, Chung BHY, Badoe E, Faradz SMH, El Ruby MO, Shotelersuk V, Wonkam A, Ekure EN, Phadke SR, Richieri-Costa A, Muenke M. Turner syndrome in diverse populations. *Am J Med Genet A*. 2020 Feb;182(2):303-313. PMID: 31854143; PMCID: PMC8141514.
- Rawool A, Srivastava P, Phadke SR. Hypotonic infant with Pallister-Killian syndrome diagnosed by cytogenetic microarray, without pigmentary skin changes and malformations. *J Genet*. 2020;99:32. PMID: 32482921.
- Danda S, Mohan S, Devaraj P, Dutta AK, Nampoothiri S, Yesodharan D, Phadke SR, Jalan AB, Thangaraj K, Verma IC, Danda D, Jebaraj I. Founder effects of the homogentisate 1,2-dioxygenase (HGD) gene in a gypsy population and mutation spectrum in the gene among alkaptonuria patients from India. *Clin Rheumatol*. 2020 Sep;39(9):2743-2749.
- Mishra S, Rai A, Srivastava P, Phadke SR. A mild phenotype of LGI4-Related arthrogryposis multiplex congenita with intrafamilial variability. *Eur J Med Genet*. 2020 Mar;63(3):103756. PMID: 31513940.

- Arora V, Setia N, Dalal A, Vanaja MC, Gupta D, Razdan T, Phadke SR, Saxena R, Rohtagi A, Verma IC, Puri RD. Sialidosis type II: Expansion of phenotypic spectrum and identification of a common mutation in seven patients. *Mol Genet Metab Rep*. 2020 Jan 11;22:100561. doi: 10.1016/j.ymgmr.2019.100561. PMID: 31956508; PMCID: PMC6957780.
- Rai A, Mandal K, Saxena D, Lallar M, Phadke SR. Distal Arthrogryposis: A Clue to the Etiology of Neonatal Cholestasis. *Indian J Pediatr*. 2020 Oct;87(10):869-870. PMID: 32239418.

Case reports

Prof. Shubha R Phadke

- Reported 10 new malformation syndromes o Three new syndrome entries in OMIM [607539, 613343, 617927]

Review

Book

Prof. Shubha R Phadke

Author of a book , 'Genetics for Clinicians'

Dr. Kaushik Mandal

- PG Textbook of Pediatrics; SECTION 3: Metabolic Disorders; Chapter 3.13 Carbohydrate Metabolism Defects
- Pediatric Office Practice: Chapter on Genetic and metabolic disorders
- Genetics in Tropics: Tropical Pediatrics
- Congenital anomalies of brain and spinal cord: Pediatric neurology

Editorial Board membership

Prof. Shubha R Phadke

- Editor of Genetics Clinics, a three monthly publication of SIAMG
- On the editorial board of American Journal of Medical Genetics o On the editorial board of Molecular Genetics & Genomic Medicine
- On the editorial board of Indian Pediatrics
- Founder member of Indian Society of Inborn Errors of Metabolism o Founder member of Society of Fetal Medicine (India)

Prof Sarita Agarwal

- IJHG

Dr Kaushik Mandal

- Society for Indian Academy of Medical Genetics: Executive and Founder member
- Indian Academy of Pediatrics (Genetics Chapter): Executive member
- Molecular pathology association of India: Executive member
- Society of Fetal Medicine

Awards and Honors

Prof. Shubha R Phadke

- Founder President of Society for Indian Academy of Medical Genetics [SIAMG]
- Recipient of Hargobind Foundation Fellowship for training in USA o Recipient of International Scholarship of Clinical Genetics Society of UK o
- On the advisory board of Journal of Fetal Medicine o References cited in London Dysmorphology Database – 48 o References cited in OMIM -27

Prof. Sarita Agarwal

- Deepika Delsa Dean- Awarded With “2020 Developing Country Award” In “American Society of Human Genetics (ASHG 2020) Held In Montreal, Canada During 27th -30th October 2020. (Attended on A Virtual Platform Due To COVID Pandemic).
- Deepika Delsa Dean- Insc. Research Excellence Award 2020” By Institute of Scholars, Bangalore

Dr. Ankita Shrivastava

- 2020 Ramalingaswami Fellow, Department of Biotechnology (DBT), Govt. of India

Workshops/ Conference:

More than 60

Publications:

Prof Shubha Phadke: more than 260

Prof Sarita Agarwal

1. Kumar A, Agarwal Sarita, Pradhan S : CpG methylation and various parameters interaction in myotonic dystrophy type 1. Journal of Analytical & Pharmaceutical Research Volume 9 Issue 1 – 2020
2. Tripathi P, Agarwal Sarita, Sarangi AN, Tewari S, Mandal K. Genetic Variation InSOD1 Gene Promoter Ins/Del And Its Influence On Oxidative Stress In Beta Thalassemia Major Patients. Int J Hematol Oncol Stem Cell Res. 2020;14(2):110-117.
3. Tripathi, P., Agarwal, Sarita., Gupta, A. Mandal, K. Biallelic Rare 17 Bp Deletion Mutation (HBB:C.380_396 Del TGCAGGCTGCCTATCAG). In A Transfusion Depended Form of Thalassemia. Ann Hematol 99, 2719–2722 (2020). <https://doi.org/10.1007/S00277-02004017-2>.
4. Asim A, Agarwal Sarita, Avasthi KK, Sureka S, Rastogi N, Dean DD, Mohindra S. Investigation of LOY In Prostate, Pancreatic, And Colorectal Cancers In Males: A Case-Control Study. Expert Rev Mol Diagn. 2020 Dec;20(12):1259-1263. Doi: 10.1080/14737159.2020.1853528. Epub2020 Dec 29. PMID: 33210965.
5. Srinivasan M and Agarwal Sarita : Molecular Diagnosis of Genetic Disorders In Hand Book of Medical Genetics and Genetic Counseling, Second edition, Page 170-193 2020
6. Tripathi, P, Agarwal Sarita, Tewari S ,Mandal K: Status of Catalase, Glutathione Peroxidase, Glutathione S-Transferase and Myeloperoxidase Gene Polymorphisms in Beta-thalassemia Major Patients to Assess Oxidative Injury and its Association with Enzyme Activities J Pediatr Genet 2020. DOI:ISSN 2146-4596.

Dr. Kaushik Mandal

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- Uptake of next-generation sequencing in children with end-stage renal disease secondary to focal segmental glomerulosclerosis and parental decision for kidney transplantation-Experience from a low resource setting: A Retrospective Cohort Study. Sinha R, Sarkar S, Mandal K, Tse Y. *Pediatr Transplant*. 2020 Dec 26:e13960. doi: 10.1111/petr.13960. Online ahead of print.
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- Steroid Resistant Nephrotic Syndrome with Clumsy Gait Associated With INF2 Mutation. Sinha R, Maiti R, Das D, Mandal K. *Indian Pediatr*. 2020 Aug 15;57(8):764.
- Mutation and Phenotypic Spectrum of Patients with RA Sopathies. Lallar M, Bijarnia-Mahay S, Verma IC, Mandal K, Puri RD. *Indian Pediatr*. 2020 Aug 6:S097475591600221. Online ahead of print.
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- Biallelic rare 17 bp deletion mutation (HBB:c.380_396 del TGCAGGCTGCCTATCAG) in a transfusion depended form of thalassemia. Tripathi P, Agarwal S, Gupta A, Mandal K.
- Distal Arthrogryposis: A Clue to the Etiology of Neonatal Cholestasis. Rai A, Mandal K, Saxena D, Lallar M, Phadke SR. *Indian J Pediatr*. 2020 Oct;87(10):869-870.
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Dr. Deepti Saxena

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- Saxena D, Phadke SR. Prenatal diagnosis of congenital high airway obstruction syndrome: our experience from a tertiary care center. *Int J Reprod Contracept ObstetGynecol* 2020;9:3858-61.
- Rawool A, Gupta S, Singh B, Phadke SR, Saxena D, Mandal K. Recurrent miscarriage in North Indian population: a study of association of polymorphisms in genes coding for the natural killer: cell receptor natural killer group 2, member D and its ligand MHC class I chain-related protein A. *Int J Reprod Contracept ObstetGynecol* 2020;9:3665-71.
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Dr. Moirangthem Amita

- Nilay M, Moirangthem A, Saxena D, Mandal K, Phadke SR. Carrier frequency of SMN1-related spinal muscular atrophy in north Indian population: The need for population based screening program. *Am J Med Genet A*. 2020 Oct 14. doi: 10.1002/ajmg.a.61918. Epub ahead of print. PMID: 33051992.
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- Girisha KM, Bhavani GS, Shah H, Moirangthem A, Shukla A, Kim OH, Nishimura G, Mortier GR. Biallelic variants p.Arg1133Cys and p.Arg1379Cys in COL2A1: Further delineation of phenotypic spectrum of recessive Type 2 collagenopathies. *Am J Med Genet A*. 2020 Feb;182(2):338-347. doi: 10.1002/ajmg.a.61414. Epub 2019 Nov 22. PubMed PMID: 31755234.
- Saxena D, Moirangthem A, Shambhavi A, Phadke SR. Koolen-de Vries syndrome: first report of two unrelated Indian patients. *Am J Med Genet A*. 2020 Dec.
- Masih S, Moirangthem A, Phadke SR. Homozygous missense variation in PNPLA8 causes prenatal-onset severe neurodegeneration. *Molecular Syndromology*. (accepted, in press).

Referee/ Review of Journal:**Prof. Sarita Agarwal**

- Gene
- Journal of Assisted reproduction and Genetics,
- Pediatric Genetics,
- Indian Journal of Hematology and Blood Transfusion,
- Intractable & Rare Diseases Research,
- Molecular Diagnosis & Therapy,
- Egyptian Journal of Medical Human Genetics.
- Annals of Human Genetics
- Indian Journal of Medical Research

Dr. Kaushik Mandal

- 12 Journals (National and International)

Dr Deepti Saxena

- Indian Journal of Pediatrics
- Neurology India

Dr MoirangthemAmita

- AJMG part A
- Indian Pediatrics
- Indian Journal of Pediatrics

Research project including both 1) Intramural and 2) Extramural research grants

S No.	Title of Project	PI	Funding agency	Amount	Date
1.	Plasma Exosomal Micro RNA And Proteome Profiling in Autism Spectrum Disorder Children's: Probing For Biomarkers"	Prof. Sarita Agarwal	DST-SERB	Rs. 6103600/-	17 Nov 2018
2.	Study Of Genetic Heterogeneity In Orofacial Cleft: Cleft Lip And Palate.	Prof. Sarita Agarwal	DST-INSPIRE	PhD thesis	27-02-2017
3.	Genotyping Of Polymorphic Variations At Quantitative Trait Loci On Genetic Modifier Genes And Its Correlation With Fetal Haemoglobin Levels In Homozygous BetaThalassemia Patients.	Prof. Sarita Agarwal	ICMR	SRF (PhD thesis)	24.11.18
4.	Studying the genetic and epigenetic aspect of Congenital heart defects in Down Syndrome	Prof. Sarita Agarwal	ICMR	Research Associate	16.04.18
5.	To Study On The Mosaic Loss Of Y Chromosome In Colorectal, Pancreatic And Prostate Cancers In Indian Patients	Prof. Sarita Agarwal	Intramural	3.5 Lakhs	25/6/18
6.	Molecular Characterization of Spinocerebellar Ataxia in Indian population	Prof. Sarita Agarwal	UGC-NET	PhD thesis	02/11/15
7	Study of Complexities of Genomic and Chromosomal Abnormalities in Couples and in Products of Conception from Recurrent Pregnancy Loss		SERB		3 years (December 2020)
8	Spectrum of PTPN11 mutation in Indian subjects with Noonan syndrome	Dr. Kaushik Mandal	Intramural		2 years (15.2. 2014) Completed March 2016

9	Study of genetic causes of childhood overgrowth and search for new genes	Dr. Kaushik Mandal	ICMR		Under process (Concept note accepted)
10	Monogenic causes of Paediatric Kidney diseases: A multicentre collaborative study from North, East and North-East India	Dr. Kaushik Mandal	DBT		Under process
11	To evaluate the role of CAG repeat polymorphism of the androgen receptor in young females of UP origin [age 18-25 years] suffering from Polycystic Ovary Syndrome.	Dr. Kaushik Mandal	Extramural (UPCST)		Under review
12	Plasma exosomal micro RNA and proteome profiling in autism spectrum disorder children's: probing for biomarkers	Dr. Kaushik Mandal (Co-PI)	SERB		August 2018 (3 years)
13	The Indian Movement disorder and Biobank	Dr. Kaushik Mandal (Co-PI)	DBT		
14	Genomic studies into defects of human limb development	Dr. Kaushik Mandal (Co-PI)	DBT		3 years (3.3.2015)
15	Immunocytochemical Novel Rabbit Monoclonal antibody HER2/neu expression and gene amplification with FISH on cell blocks of breast carcinoma	Dr. Kaushik Mandal (Co-PI)	Intramural		2 years (15.2 2014) Completed March 2016
16	Functional Validation of Novel Sequence Variants in Monogenic Disorders to prove their pathogenicity	Dr. Kaushik Mandal (Co-PI)	DST		3 years (June 2016)
17	Utility of single nucleotide polymorphism genotyping array in identification of genetic etiology in patients with autosomal recessive disorder with consanguinity	Dr. Kaushik Mandal (Co-PI)	Intramural		2 years (15.2 2014)
18	Role of WNT pathway signaling module RNF43, ZNFR3 in colorectal cancer	Dr. Kaushik Mandal (Co-PI)	Intramural		2 years (2017)

19	Genetic and immunological characteristics and skeletal muscle dysfunction in patients with hypoparathyroidism	Dr. Kaushik Mandal (Co-PI)	Intramural		October, 2018
20	Understanding pathogenesis of Takayasu arteritis - transcriptomics applied to peripheral blood mononuclear cells (PBMC) and involved vessels, and the role of various T-cell subsets	Dr. Kaushik Mandal (Co-PI)	Extramural (ICMR)		3 years (April 2019)
21	Genetic characterization of idiopathic hypoparathyroidism using a whole exome sequencing approach	Dr. Kaushik Mandal (Co-PI)	ICMR		Under consideration
22	Pathophysiology of clinical outcomes and FGF23 production in patients with phosphaturic mesenchymal tumours	Dr. Kaushik Mandal (Co-PI)	SERB		Under consideration
23	Genotype phenotype correlation of neuroendocrine tumours	Dr. Kaushik Mandal (Co-PI)	Intramural		Jan 2019
24	Clinical and genotypic profile of arthrogryposis	Moirangthem Amita	SGPGIMS, research cell	4.9 lacs	March 2019, 2 years
25	Indian Undiagnosed Diseases Program	Moirangthem Amita	ICMR	53 lacs	Approved but yet to be started

Dr. Deepti Saxena

- Use of Next Generation Sequencing Techniques in identification of causative etiology in fetuses with abnormal ultrasound findings and identification of Novel Genes in Lethal Disorders. ICMR, 2020-2023, Rs. 94,37,898.

Dr. Ankita Shrivastava

- Investigating the genetic contributors to spinocerebellar ataxia in Indian population SGPGIMS, Intramural Grant (2019-2021) Role: PI 5.00000
- Identification of genetic variants and their functional evaluation in the pathogenesis of inherited cardiomyopathies ICMR, Govt. of India (2019-2022) Role: Co-PI 60.00000
- Probing the dynamic balance of histone H2AUb1 regulatory axis in hypertrophic cardiomyopathy and early heart development IYBA, DBT, Govt. of India (2019-2022) Role: PI 60.61600
- Functional characterization of rare founder alleles causing neurodevelopmental disorders for biomarker identification and community genetics surveillance. Ramalingaswami Fellow, DBT, Govt. of India (2020-2025) Role: PI 45.00000

- Whole-exome sequencing based genetic testing and functional characterization of rare pathogenic alleles causing neurodevelopmental disorders for biomarker identification. ICMR, Govt. of India (2020-2023) Role: PI

Conference presentations:

Prof. Sarita Agarwal

- Prof Sarita Agarwal-Paper Presented In ISHG-2020 Held In Chennai From 13/02/2020 To 15/02/2020 On The Title “Employing Loss Of Y Chromosome For Non-Invasive Biomarker For Early Detection Of Colorectal Cancer, Prostate And Pancreatic Cancers In Males.
- Dr Ambreen Asim – Paper Presented In American Society Of Human Genetics From 27/10/2020-30/10/2020 (Virtual Platform) On Title “Loss Of Y Chromosome: Non-Invasive Biomarkers For Early Detection Of Colorectal And Prostate Cancers In Males.
- Dr Deepika Delsa Dean – Paper Presented In American Society Of Human Genetics From 27/10/2020-30/10/2020 (Virtual Platform) On Title “Charting The Role Of Fmr1 Gene In Unexplained Recurrent Miscarriages: A View Of Expanding Phenotypic Horizon?
- Kapil Avasthi - Paper Presented In American Society Of Human Genetics From 27/10/2020-30/10/2020 (Virtual Platform) On The Title -Genome-Wide Analysis Identify Novel Genomic Variations In Susceptibility To Non-Syndromic Cleft Lip And Palate.
- Dr. Priyanka Vishwakarma- Paper Presented In ISHG 2020 Held In Chennai From 13/02/2020 To 15/02/2020 On The Title- Molecular Spectrum, Family Screening And Counseling Of Spinocerebellar Ataxia (SCA) Cases In An Indian Scenario.
- Poonam Tripathi- Paper Presented In ISHG 2020 Held In Chennai From 13/02/2020 To 15/02/2020 On The Title- Biallelic Rare 17bp Deletion Mutation (HBB:c.380_396 del TGCAGGCTGCCTATCAG) in a transfusion depended form of thalassemia.

Dr. Kaushik Mandal

- 11 presentations (Including 7 online) in 2020

Outstanding features:

1. PhD Viva Voice of Ms Priyanka Vishwakarma and awarded for the same by SGPGIMS authority
2. Final DC of Ms Poonam Tripathi
3. PhD Viva Voice of KGMU student as External Examiner

Covid related Highlights:

1. Mr Saroj Gautam (Technical Officer of Genetic Hematology) had been posted for two months duty in Microbiology lab for Covid investigations)

Vision:

To provide the best & most advanced diagnosis and care for every genetic disorder, however rare.
(Accessed from the website)

DEPARTMENT OF MICROBIOLOGY

Extramural Grant

1. Dr. Chinmoy Sahu, ICMR funded project (40 lakhs) on Carbapenem resistance and new antibiotic combinations.
2. Department is running various health programmes and extramural grants and projects on Polio, Dengue, Measles, Influenza, Antibiotic resistance and bacterial peritonitis, Tuberculosis etc.

National/International awards received

Prof. Ujjala Ghoshal was invited as eminent speaker from Bangladesh Society of Gastroenterology, International Conference on Virology and E Microcon (Annual Conference of Indian Society of Microbiology), e-Tropacon (Annual conference of Indian Society of Tropical Parasitology).

COVID related highlights

COVID -19 laboratory was established in a small scale with very few staff and equipments and facilities on March 19th, 2020, dedicated for the patients attending SGPGI, later extended the services to the various districts of UP. Samples from almost 25 districts have been tested by our laboratory. Now the lab is processing around 5000 samples every day. Till date we have processed more than 7.5 lakh plus samples. Ours is the centre, which had processed 7748 samples in a day, one of the highest in India, which is a matter of pride for the institute.

Since past 8 months laboratory is catering the needs 24/7 not only with RT-PCR testing, but also with-, indigenous, rapid microchip based PCR testing i.e., TrueNAT and has not closed down for a single day.

For a good quality RT-PCR report, the proper method of sample collection is a must. By understanding this need, we had started sample collection centre on March 23rd at SBI E-corner near PMSSY building. Later when the case load started increasing, we opened 2 more collection booths near SBI E-corner and one more collection booth near RCH-1.

Our department has not only worked for testing of the samples, but also has conducted training sessions for the health care workers (HCW) within the institute about donning and doffing of PPE, and HCW from various institutes with respect to hands on with RNA extraction, handling automated extractors and RT-PCR reporting and interpretation.

As it is a new disease, thinking regarding the dire need to gain more knowledge regarding the disease, we also have actively conducted research on SARS-COV2 virus. We have published around seven papers with impact factor upto 5.5 and few more are in pipeline. We have received intramural and extramural projects in Covid-19 too as Principal and Co-investigator and are collaborating with various departments of the Institute and outside the Institute too.

Apart from COVID-19 the Department is providing diagnostic services for various infectious pathogens. The Department has acquired many state of art equipments a like automated RNA extractors, real time PCR, Truenat, pyrosequencer, Pulse Field Gel Electrophoresis, MALDI-TOF, etc which are helping in accurate diagnosis. We want to acquire more advanced instruments like MALDI-TOF and sequencer for routine patient diagnosis. The Department is also active in teaching and training by running various courses like MD, PhD, MSc (Medical Virology), various BSc courses etc with collaboration with college of medical technology (CMT).

Vision

These are the future visions of Department:

a) Establishment of culture and molecular diagnostic Infectious disease laboratory with BSL-3 facility

We want to establish a state of art molecular diagnostic laboratory. It will provide inclusive diagnosis of all types of infections with latest technologies. The focus will be on vector borne disease, drug resistant pathogens, tropical parasitic infections, Invasive fungal infections, serodiagnosis of rare pathogens etc.

b) Establishment of advanced metagenomics laboratory

Establishment of advanced metagenomics laboratory with infrastructures for timely identification of viruses and other agents causing morbidity significant at public health level and specifically agents causing epidemics and/or potential agents for bioterrorism. Developing capacity for identification of novel and unknown viruses and other organisms & emerging/ re-emerging viral strains and develop diagnostic kits. Undertaking research for identification of emerging and newer genetically active/ modified agents.

c) NABL accreditation of microbiology department

NABL is a Constituent Board of Quality Council of India. We plan to go for NABL accreditation for technical competence testing of our all laboratories in our Department.

d) Establishment of transplant associated infections disease laboratory

Presently renal, bone marrow, liver, heart and lung transplant programmes are on priority list of our institute. Transplant associated infections are a major reason for graft failure and life threatening infections in the recipients. Thus, we plan to establish a laboratory exclusively for diagnosing these infectious agents.

e) Hospital Infection control and AMR surveillance network at SGPGIMS, Lucknow

As our institute is a tertiary care center, hospital acquired infections are major problem and leading cause of morbidity and mortality. So we want to establish and strengthen the various hospital infection control programmes. Surveillance and screening of multidrug resistant (MDR) pathogenic bacteria with special focus on hospital acquired infections and their molecular characterization. Elucidate the resistance mechanisms and the transmission dynamics of resistance genes using 'one health' approach. Improve awareness and understanding of AMR through effective communication, education and training.

DEPARTMENT OF MOLECULAR MEDICINE & BIOTECHNOLOGY

STAFF

Name of Faculty Members:

- | | |
|------------------------------|---------------------|
| 1. Dr. Swasti Tiwari | Professor & Head |
| 2. Dr. Alok Kumar | Associate Professor |
| 3. Dr. Lokendra Kumar Sharma | Assistant Professor |
| 4. Dr. Santosh Kumar Verma | Assistant Professor |

Senior Demonstrator

1. Dr. Sabya Abbas
2. Dr. Krishan Kant
3. Dr. Mansi Bhardwaj
4. Dr. Suman Misra

Departmental Activities

1. Introduced two new HIS investigations by the Department; HPV genotyping, and Preeclampsia risk assessment, SGPGI will be the first government hospital in the state of UP to offer these investigations.

Patient Care Services

Ongoing Clinical Laboratory Services

1. Alpha-Feto protein (AFP)
2. Human chorionic gonadotropin (hCG)
3. Homocysteine
4. Double marker test
5. Triple Test
6. Quadruple Marker test
7. HC2 HPV screening

New Clinical Laboratory Services (Approved)

1. HPV 16 & 18 genotyping
2. Pre-eclampsia risk assessment (Provisionally approved)

Teaching and Training including:

1. PhD Programme in Molecular Medicine & Biotechnology
 - o Thesis Awarded (1)
 - o PhD Student enrolled (8)
2. Post graduate Research Training for M.Sc/M.tech students: 6

Visiting lectures

1. Study on interaction between Cancer Stem cells and Mesenchymal Stem cells presented by Dr Joyeeta Talukdar, department of Biochemistry, AIIMS Delhi, dated 24-12-2020
2. Impact of altered ECM protein distribution on immune cell functions during inflammation presented by Dr Chandra Bhan, IIT-Roorkee dated 7-12-2020
3. Exploiting the DNA damage repair pathways in the treatment of cancer and its crosstalk with neurodegenerative diseases presented by Dr Abhishek Sharma, department of oncology, Luxembourg Institute of Health dated 9-12-2020
4. Identification of site specific multipurpose aptamers against different targets in a modified selection scheme using advanced sequencing technique presented by Dr. Garima Srivastava, Hokkaido University, Japan, IIT Delhi, dated 11-12-2020

Honors & Awards

1. **ICMR Centre of Excellence** to Prof. Swasti Tiwari (Centre for Advance Research and Excellence for kidney disease biomarkers and therapeutics). (Sanctioned fund 5 crores)
2. **Membership of Senate**- Prof Swasti Tiwari nominated as Institute Senate member in July 2020 of National Institute of Pharmaceutical Education and Research Raebareli,
3. **Best Research Paper Award** to Dr. Alok Kumar under Basic category for the year 2020 on 1st Research Day at Sanjay Gandhi Postgraduate Institute of Medical Sciences (13-14th December 2020).

Member of Editorial Committee

Dr. Alok Kumar

- Guest Editorship for "Frontiers in Neurology" 2020.

Dr. Swasti Tiwari

- Frontiers in Physiology
- World Journal of Nephrology

Referee/Reviewer of a Journal

Dr. Alok Kumar

- Journal of Neuroscience Research
- Journal of Neurochemistry
- Frontiers in Cellular Neuroscience
- Brain Research
- Molecular Neurobiology
- Neurochemistry International

Research Projects

Intramural

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	Validation of 'Hi-Screen' test for COVID-19 developed at SGPGI	Dr. Swasti Tiwari	Intramural, SGPGIMS	4.80 lakhs	2020-2022
2.	To examine the immunomodulatory effect of Umbilical cord blood Mesenchymal stem cells on HLA matched immune cell interactions in the context of Type 1 Diabetes	Dr. Swasti Tiwari	Intramural, SGPGIMS	5.00 lakhs	2018-2020
3.	Brain Ageing Research: Role of genetic modified extra cellular vesicles (EVs) in modulation of age related chronic neuroinflammation	Dr. Alok Kumar	Intramural, SGPGIMS	5.00 lakhs	2019-2021
4.	Development of predictive markers for maternal and neonatal health through investigation of mitochondrial changes during pregnancy (A pilot study)	Dr. Lokendra Kr. Sharma	Intramural, SGPGIMS	5.00 lakhs	2019-2021
5.	Gene expression analysis during trophoblast cell fusion process	Dr. Santosh Kr. Verma	Intramural, SGPGIMS	5.00 lakhs	2019-2021
6.	Comparison of cytotrophoblast -cell-fusion markers in Placenta of Early and Term Gestation (A Pilot Study)	Dr. Santosh Kr. Verma	Intramural, SGPGIMS	5.00 lakhs	2020-2022

2.) Extramural Research Grants

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	CARE on kidney Diseases-Biomarkers & newer therapeutics	Prof. Swasti Tiwari	ICMR, Govt. of India	5 crore	2019-2024
2.	Monitoring placental health & function across pregnancy using Placental -derived nanovesicles in maternal blood-full	Prof. Swasti Tiwari	DBT, Govt of India	68 Lakhs	2019-2022

3.	Exploring bone marrow MSCs derived exosomes as a potential treatment for DM type – I	Prof. Swasti Tiwari	DST- (Indo-Israel)	49.3 Lakhs	2018-2021
4.	Epigenetic Modulation by stains in nephropathy	Prof. Swasti Tiwari	ICMR, Govt. of India	34 Lakh	2017-2020
5.	Effect of insulin signaling on tubular Albumin reabsorption	Prof. Swasti Tiwari	ICMR, Govt. of India	36 Lakh	2018-2020
6.	Autophagy regulation of microglia/ macrophage activation followed by Japanese encephalitis viral infection	Dr. Alok Kumar	DBT, Govt. of India	87 Lakh	2017-2022
7.	Investigation of metastatic potential of mitochondria and associated mechanisms using trans-mitochondrial cybrids	Dr.Lokendra Kr. Sharma	SERB, Govt. of India	40 Lakh	2019-2022
8.	Identifying therapeutic targets for blocking infection of highly pathogenic SARS-CoV-2 at an early stage: developing novel screening assay with minimal bio-hazard risk	Dr. Santosh Kr. Verma	DBT, Govt. of India	84 Lakh	2020-2022

Publication

Original articles

1. Abbas S, Singh SK, Saxena AK, Tiwari S, Sharma LK, Tiwari M. Role of autophagy in regulation of glioma stem cells population during therapeutic stress. *Journal of Stem Cells & Regenerative Medicine* 16 (2), 80, 2020.
2. Aljaylani A, Fluitt M, Piselli M, Shepard MD, Tiwari S, Ecelbarger CE. Acid Loading unmasks glucose homeostatic instability in proximal-tubule-targeted insulin/insulin-like-growth-factor-1 receptor dual knockout mice. *Cell Physiol Biochem*. 2020 Jul 18; 54(4): 682–695.
3. Awasthi M., Gulati S, Sarkar D.P., Tiwari S., Kateriya S., Ranjan P, Verma S.K. (2020) The Sialoside-Binding Pocket of SARS-CoV-2 Spike Glycoprotein Structurally Resembles MERS-CoV. *Viruses*, 12(9):E909
4. Fluitt M, Shivapurkar N, Kumari M, Singh S, Li L, Tiwari S, and Ecelbarger C. Systemic Inhibition of miR-451 Increases Fibrotic Signaling and Diminishes Autophagic Response to Exacerbate Renal Damage in Tallyho/Jng Mice. (AJP-renal-accepted in July 2020).
5. Godbole NM, Sinha RA, Tiwari S, Pawar SD, Dhole TN. Analysis of influenza virus-induced perturbation in autophagic flux and its modulation during Vitamin D3 mediated anti-apoptotic signaling. *Virus Res*. 2020 Jun; 282:197936. doi: 10.1016/j.virusres.2020.
6. Kumar A, Kalita J, Sinha RA, Anjum B, Shukla M, Tiwari S, Dhole TM, Misra UK. Impaired Autophagy Flux is Associated with Proinflammatory Microglia Activation Following Japanese Encephalitis Virus Infection. *Neurochem Res*, 45:2184–2195, 2020.
7. Kumar V, Mishra S, Sharma R, Agarwal J, Ghoshal U, Khanna T, Sharma LK, Verma SK, Tiwari S. Development of RNA-based assay for rapid detection of SARS-CoV-2 in clinical samples. *bioRxiv*; 2020. DOI: 10.1101/2020.06.30.172833.

8. Kumari M, Mohan A, Singh S, Ecelbarger CA, Gupta A, Prasad, N., and Tiwari S. MiR-451 loaded exosomes are released by the renal cells in response to injury and associated with reduced kidney function in human. *Frontiers in Physiology-renal* 2020 Apr 8;11:234. doi: 10.3389/fphys.2020.00234
9. Rai NK, Mathur S, Singh SK, Tiwari M, Singh VK, Haque R, Tiwari S and Sharma LK: Differential regulation of mitochondrial complex I and oxidative stress based on metastatic potential of colorectal cancer cells. *Oncol Lett* 20: 313, 2020
10. Rajak S, Hussain Y, Singh K, Tiwari S, Ahmad B, Bharti S, Prakash P. Cellular Fibronectin Containing Extra Domain A Causes Insulin Resistance via Toll-like Receptor 4. *Scientific Reports (Nature publishing)*- 2020 Jun 4;10(1):9102. doi: 10.1038/s41598-020-65970-6.
11. Sharma R, Kumari M, Prakash P, Gupta S, and Tiwari S Phosphoenol pyruvate carboxykinase in urine exosomes reflect impairment in renal gluconeogenesis in early insulin resistance and diabetes *American Journal of Physiology-renal (AJP-renal)*. 2020 Mar 1;318(3):F720-F731. doi: 10.1152/ajprenal.00507.2019.
12. Singh S, Yadav G, Tiwari S, Kumar A. CCR2 Inhibition Reduces Neurotoxic Microglia Activation Phenotype After Japanese Encephalitis Viral Infection. *Front Cell Neurosci*, 14:230, 2020.
13. Singh SK, Abbas S, Saxena AK, Tiwari S, Sharma LK, Tiwari M. Critical role of 3-dimensional tumorspheres size on experimental outcome. *Biotechniques*. 2020 Oct 1. doi: 10.2144/btn-2020-0081.

Review article

1. Tiwari S., Kumar V., Randhawa S., and Verma S.K. (2020) Preparation and characterization of Extracellular Vesicles *Am J Reprod Immunol*. e13367.

Book chapters:

1. Rai N.K., Singh S.K., Tiwari M., Sharma L.K. (2020) Implications of Nanotechnology in Cancer Diagnostics and Therapeutics. *Functional Bionanomaterials. Nanotechnology in the Life Sciences*. Springer, Cham. https://doi.org/10.1007/978-3-030-41464-1_12.

Conference Presentations

1. Prof. Swasti Tiwari: Invited Web-conference series: Clinical Research During and After COVID-19 Times - How to Adjust to the New Normal, organized by Organized by CDM-BIOS-MW Council of ISCR (Indian Society for Clinical Research). 26.09.2020.
2. Prof. Swasti Tiwari: Key note speaker at BBAU (Babasaheb Bhimrao Ambedkar University) "Women in Science" on National Science day on 28th February, 2020.
3. Dr. Lokendra K. Sharma (Invited speaker): Mitochondrial complex I: Role in carcinogenesis with implications in diagnostics and mitochondrial therapeutics. 5-7th Feb 2020. 39th Annual Conference of Indian Association of Cancer Research (IACR)-2020, Thiruvananthapuram, Kerala, India.
4. Dr. Santosh Kumar Verma (Invited speaker): National Seminar on "Omics for Food, Health and Environment" (OFHE-2020), Department of Biotechnology, DDU Gorakhpur University (14-15th February 2020).
5. Dr. Santosh Kumar Verma (Invited speaker): Medical Ethics in the time of COVID-19 Pandemic (Medical Ethics Seminar-IV) "Care in COVID-19: Patient's Perspective", SGPGIMS, Lucknow (3rd October, 2020).

Workshop/ Conferences Organized

1. Small RNA Isolation & Characterization-2 days workshop on 24-25 Feb 2020.
2. Gene Profiling using Microarray Technology-3 days workshop on 26-28 Feb 2020.

COVID related highlights

1. Department, in collaboration with University of Maryland (USA), University of Delhi (India) Jawaharlal Nehru University (India) has identified a unique sugar binding site for SARS-CoV-2 virus by in-silco approach. The research was led by Dr. Santosh Verma (Assistant Professor). The identified unique binding site is present in the N-terminal region of SARS-CoV-2 spike-protein having affinity for sialosides. The work has been published (*Awathi M et al. 2020 Viruses 2020, 12(9), 909*).
2. The department has developed a rapid technology for SARS-CoV2 RNA detection-the research was led by Prof.Swasti Tiwari. A patent has been filled for the same. The work has been published as preprint on bioRxiv and is freely available in Europe PMC.
3. Dr. Santosh Verma (Assistant Professor) has been sanctioned grant under DBT-BIRAC COVID-19 Research Consortium for COVID-Therapeutics research.
4. Extensive Media coverage of COVID-19 research contribution published in journal "Viruses" was covered by leading national Print/Video media (Dated: 6th Nov. 2020 edition and 21st Nov. 2020 The Pioneer edition). (Dr. Santosh Verma, Assistant Professor).
5. National Blog article: Scientific blog article entitled as, "Sweet spots as alternate receptors for SARS-CoV-2" related to COVID-19 research contribution by Dr. Santosh Verma, Assistant Professor published online on SCICOU (https://scisoup.org/) (article released online on 8th Dec 2020)
6. Independent International Blog article entitled as "New Engineered Coronaviruses are under Development", published in Freedom Bunker, USA by Joseph Mercola highlight our COVID-19 research contribution published in journal "Viruses" (10th September, 2020). (Dr. Santosh Verma, Assistant Professor)
7. Independent International Blog article entitled as "A Naturally-Occurring COVID-19 is the Real Conspiracy Theory", published in The Gateway Pundit, USA by Joe Hofthighlight the importance of our COVID-19 research contribution published in journal "Viruses" (20th August, 2020). (Dr. Santosh Verma, Assistant Professor)

Vision of the Department for the next 5 years

1. Bridging clinical and basic sciences through collaborative translational research: with special focus on developing innovative diagnostic and therapeutic approaches for ongoing COVID-19 pandemic, kidney, mitochondrial diseases, cancer, infectious diseases.
2. Advanced molecular diagnosis: for women health, maternal and neonatal health cervical cancer screening programmes, for non-communicable as well as infectious diseases.
3. Development of skilled human resources: for health sectors, academia and industries through research based teaching and training programmes (MSc and PhD).

DEPARTMENT OF NEONATOLOGY

STAFF

Name of Faculty Members:

- | | |
|-----------------------|----------------------------|
| 1. Dr Kirti M Naranje | Additional Professor& Head |
| 2. Dr Anita Singh | Associate Professor |

Residents/Students **14**

DM	4
PDCC	6
SR (HS)	4

Departmental Activities

Patient Care Services

OPD

- | | |
|--------------------------------|------|
| (a) Old Follow-up | 3465 |
| (b) New Registration Admission | 88 |

Investigations & Procedures

- | | |
|--------------------------------|-----|
| 1. Exchange transfusions | 35 |
| 2. Newborn ventilation | 150 |
| 3. Newborn hearing screening | 123 |
| 4. Newborn metabolic screening | 70 |

Teaching and Training including:

1. Short Training Observership: None
2. Visiting Professorship: one

1. Dr Sanjay Patole

MBBS, MD, DCH, FRACP, FAIM, FIML, MSc, DrPH



- Professor Sanjay Patole is a full-time clinical academic neonatologist in the 100-bed tertiary neonatal intensive care unit at KEM Hospital for Women, and a Clinical Professor at the University of Western Australia. Prof Patole is a Co-investigator of the NHMRC Centre of Research Excellence for preterm infants, devoted towards translational research, and teaching research methodology and evidence-based practice of medicine. Prof Patole holds the Fellowship of the Australian Institute of Management (FAIM) and the Center for Evidence Based Management (CEBM), Netherlands, an independent non-profit member organization founded by an international group of management scholars and practitioners to promote evidence-based decision- making and practices in the field of management and leadership. He teaches clinical leadership and management to advanced trainees at KEM Hospital.
- He visited the department of Neonatology twice (February 2019 and February 2020). During his visit he took several lectures pertaining to neonatal gastroenterology, research methodology and leadership management skills.

Honors & Awards

1. Best poster award in national conference on Kangaroo mother care
2. Best poster award in State level UP e NEOCON
3. Second and third best paper award in state level UP e NEOCON

Member of Editorial Committee

Dr. Kirti Naranje

- AS Pediatrics

Referee/Reviewer of a Journal:

Dr. Kirti M Naranje

- BMJ case reports
- Indian Journal of Paediatrics
- PLOS ONE
- 4. Journal of Paediatrics and infants

Dr. Anita Singh

- BMJ case reports
- Indian Journal of Paediatrics
- Indian Journal of Child Health

Research Projects

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	Duo-PAP vs Nasal Continuous Positive Airway Pressure in Preterm Neonates with Respiratory distress syndrome: A Randomised Control trial.	Dr. Kirti M Naranje	SGPGI	5 lacs	January 2020
2.	Transcutaneous bilirubinometry from patched skin and correlation with serum bilirubin during and after phototherapy	Dr. Anita Singh	SGPGI	2 lacs	January 2020

Other Projects

1. Impact of Neonatal Counselling on Parental stress in Neonatal Intensive Care unit.
2. Rate of self-extubation in neonates with endotracheal tube fixation with central vs. corner method: A Randomized controlled trial
3. Financial implications for families of newborns admitted in a tertiary care neonatal unit in northern India

Publications

Original articles

1. Clinical Profile and outcome of outborn neonates transported to tertiary care hospital in Uttar

- Pradesh: Prospective cohort study. Naranje KM, Gupta G, Singh A, Jaiswal R, Pandey A, Roy R, Kaur H, Gupta A, Gautam A, Dwivedi M, Birthare A. Neonatal COVID-19 Infection Management. Journal of Neonatology. June 2020 .<https://doi.org/10.1177/0973217920928638>
2. Verma A, Jaiswal R, Naranje KM, Gupta G, Singh A. Bubble CPAP splitting: innovative strategy in resource-limited settings. Arch Dis Child. 2021 Feb;106(2):137-140. doi: 10.1136/archdischild-2020-320030. Epub 2020 Nov 16. PMID: 33199299;
 3. Verma A, Pandita A, Gupta G, Naranje KM, Singh A. Role of DVET in severe neonatal sepsis in an era of high antibiotic resistance: a retrospective observational study, The Journal of Maternal-Fetal & Neonatal Medicine, (2020) DOI: 10.1080/14767058.2020.1771303.

Case Report

1. "A case of hypotonic Baby" in Neoreviews
2. "A case of facial swelling" in Neoreviews

Book chapters

1. "Non-invasive ventilation in Neonate"
2. " TPN in neonates"
3. " Infant feeding in special situations"
4. "Maternal CMV infection"
5. " Maternal Hepatitis B infection"

Workshop/ Conferences Organized

1. UPIAP online neonatal ventilation workshop in April 2020
2. Neonatal nutrition workshop in Sept 2020 (as a part of UP Neocon 2020)
3. Scan workshop in Sept-Oct 2020 (as part of UP Neocon 2020)
4. World breastfeeding week celebration
5. World Newborn week celebration

Outstanding Features/Summary

Neonates are babies less than 28 days and present a unique spectrum of diseases. Even a small medical problem in a newborn can mean a special challenge requiring knowledge, expertise and advanced technology to care for these precious patients. The department of Neonatology has been started with the motto to provide compassionate and humanized care to neonates of this region, with the optimum use of resources and technology. The department aims to provide comprehensive, state-of-the-art intensive care to critically ill newborns in this region. In addition, long-term neurodevelopment follow-up for high-risk infants who are discharged from the intensive care will also be offered. The department's mission includes education and training of paediatricians in different aspects of newborn care and related research. The department also endeavours for international collaboration and partnership for academic and research. It aspires to become a nationally recognized centre for providing complete and exceptional neonatal care, based upon latest novel and scientific approaches for the care of the newborn. Presently, the department offers level 3 neonatal services and is equipped with most advanced equipment. It also provide outpatient services and high risk follow up.

We are a cohesive team, involved in providing comprehensive newborn care including advanced, intensive, developmentally supportive and evidence based interventions with goal to have intact

neonatal survival. The department mentors to provide comprehensive, professional and humane development. The department addresses to fundamental research questions and innovations relevant to Indian scenario.

COVID related highlights

Innovations

1. CPAP multiplier: An indigenous innovative strategy of splitting the bubble CPAP assembly using a T-piece splitter in simulation model with aim to provide respiratory support to two or more infants in crises situations.
2. Mask made of diaper & cling wrap: Single to triple layered
3. Personal Protective Equipment using trash bag
4. Innovative Face Protective Equipment (FPE) for HCW's during COVID-19 pandemic

Publications

1. Mask innovation paper : Accepted for publication in Journal of Neonatology
2. CPAP splitting- an indigenous innovative strategy in times of contagion. Manuscript (No. IJPE-D-20-00798) under review in Indian Journal of Paediatrics.
3. Neonatal COVID 19 Infection Management guidelines: Accepted for publication in Journal of Neonatology
4. Enhancement of Immunity and Health in neonates and Infants (Manuscript ID NNT-2020-0082) : Under process and peer review

Academic meetings (On online platform)

1. Apr 25, 2020: AHA Lucknow organized online meet on "How to boost immunity especially during COVID 19". Two speakers from our department contributed to that as faculty.
2. Prof Girish Gupta spoke on topic : Nutraceuticals as immunity booster
3. Dr Rahul (PDCC Fellow) spoke on topic: Immunity boosting in neonates
4. Discussion with Canadian faculty on the topic of "COVID 19 Information & Guidelines" with special reference to SGPGI guidelines.

Vision of the Department for the next 5 years.

1. To increase bed strength from present 30 to 60 bedded unit.
2. To increase human resource of the department
3. Faculty strength -from 05 to 10 nos.
4. Senior resident DM- from 02 per year to 06 per year
5. Nursing staff- from 28 to 120 nos.
6. To procure high end equipment's such as inhaled nitric oxide, therapeutic hypothermia and Neonatal ECMO services for better neonatal care.
7. To establish Human milk bank
8. To facilitate for MSc Neonatal Nursing program
9. To become centre of excellence for neonatal care and research in India.

DEPARTMENT OF NEPHROLOGY

Faculty

1.	Prof. Narayan Prasad	Professor & Head
2.	Prof. Anita Saxena	Professor
3.	Prof. Anupama Kaul	Professor
4.	Dr. D.S. Bhadauria	Additional Professor
5.	Dr. M.R. Patel	Assistant Professor
6.	Dr. Monika Yachha	Assistant Professor
7.	Dr. M.R. Behera	Assistant Professor
8.	Dr. Ravi S Kushwaha	Assistant Professor

Residents

SR (DM Registered) 18

PDF 2 (1 Renal Transplant Medicine+1 Intervention Nephrology)

Departmental Activities

OPD	Total patients	28053
	New patients	2741
	Follow-up patients	18744
	Transplant patients	6568
Admissions	Ward admissions	771
	ICU admissions (ICU-Dialysis)	283
	KTU admissions	201
Kidney transplants	Live donor ABO compatible	36
	Live donor ABO incompatible	9
	Cadaveric donor	0
Emergency services	Emergency consultations	1620
	Emergency admissions	552
	Interdepartmental consultation	1298
Dialysis procedures	Hemodialysis sessions (HD)	33040
	Online hemodiafiltration sessions (OLHDF)	1627
	Plasmapheresis	259
	Continuous renal replacement therapy (CRRT)	96
	SLED	762

	AVF	336
	IJV Insertion	618
	Permacath insertion	304
	Permacath removal	91
	New patients	964
	Femoral insertion	1034

Investigations

Total number of investigations of Renal and Transplant Immunology Lab		Nos
Renal Lab	Hematology (Hb, TLC, HCT, ESR, DLC, CBC, Retic)	9503
	Viral machine quantitative PCR, HBV DNA, HCV RNA	537
	Biochemistry: KFT, LFT, lipid profile, electrolytes, Mg, Phos, Ca++, uric acid, amilase, blood sugar, Iron TIBC, UIBC, HDL	41072
	Drug assays: CsA, Tacrolimus	4159
	Hormonal : PTH, vitamin D	5095
	Iron profile: Iron, TIBC, folate, B12, ferritin	6481
	Urine examination: Urine R/M, pH	699
	Serology: HIV, HCV, HBsAg, CMV, IgG, CMV IgM	6101
Transplant Immunology Lab	Flow cross match (flow Cytometric)	55
	Donor specific antibody	76
	HLA typing (A,B,DR Lo... DPDQ)	346
	PRA (Panel Reactive antibody)	19
	Single antigen	64

Teaching and Training:

Beside daily bed side teaching rounds, and weekly clinical grand rounds, department conducts morning teaching sessions on daily basis, in which presentations includes seminars, journal club, case discussions and combined meetings with Pathology, Radiology, Nuclear Medicine, Urology, Telemedicine Sessions with SRMC, Chennai and Raebarely.

Honours and Awards

Dr. Narayan Prasad

International Award

- Best paper Award on 'Overexpression and function of P-glycoprotein and MRP-1 are pharmacogenomic biomarkers to determine steroid resistance phenotype in childhood idiopathic nephritic syndrome during the online 40th Annual Meeting of the Korean Society of Nephrology, September 2020.

- Plenary lecture at online 40th Annual Meeting of the Korean Society of Nephrology, September 2020.
- Speaker and organizer of Organize International Webinar-Indian Society of Nephrology and International Society of Nephrology-25th April 2020.
- Speaker and organizer of Webinar American Society of Nephrology and Indian Society of Nephrology on topic COVID and Kidney diseases - 3rd June 2020

Government of India (Ministry of Health & Family Welfare)

- Member, Pradhan Mantri National Dialysis Programme (PMNDP), National Health Mission, Government of India, October 2019.
- Video Conference with all States/UTs for Roll Out of Peritoneal Dialysis under Pradhan Mantri National Dialysis Programme (PMNDP) on 13th December, 2019 from 03:00 PM to 05:00 PM-reg.- | 80 I 5 I I 7 t20 t9-NHM-Government of India, Ministry of Health and Family Welfare, (NHM-II Division)

Professional Bodies – International & National leadership

- Executive Member-International Society of Nephrology-Sister Renal Centers Committee-2019-21
- Executive Member – International Society of Nephrology-Renal Sister Programme
- Executive Member – South Asia Regional Board, International Society of Nephrology
- Secretary, Indian Society of Nephrology
- Editor, Indian Point of Care (Elsevier)
- Associate Editor, Indian Journal of Nephrology.
- Associate Editor, Indian Society of Organ Transplantation
- Editorial Board – Seminar in Dialysis

Dr. Anita Saxena

- Awarded Fellowship of Royal College of Physician (FRCP), London
- Member Editorial Board Journal of Renal Nutrition.
- FICCI Outstanding Woman in Medicine and Healthcare 2020
- Bharat Ratna Dr APJ Kalam Excellence 2020

International

- Member Expert For Review Panel To Work With The Kidney

Disease Outcome Quality Special Initiative (KDOQI) Guidelines

- Faculty European Society of Parenteral and Enteral Nutrition (ESPEN) Life Long Learning (LLL) programme, 2020
- Government of India, community health nursing for wellness Screening

Faculty BRIDGE programme SGPGI

- Invited Speaker Govt of India NertProFan (Eat Right India)
- Starting 01 Basic Course in Therapeutic Nutrition
- Member Research publication Committee, SGPGIMS
- Member interview board for recruitment of research staff, SGPGIMS

- Invited Speaker Mission Shakti Programme" Govt. of Uttar Pradesh Organized by National PG College, 19th October 2020 Female Health And Nutrition"
- Invited Speaker Nutrition In Chronic Kidney Disease and Considerations **In Extra-Ordinary Circumstances National Webinar June 2020**
- Presented clinical trial at American Society of Nephrology Renal Week In Late Breaking Clinical Trials
- Member Editorial Board Journal of Renal Nutrition (JReN)
- Editor Journal of Renal Nutrition and Metabolism
- Secretary Society of Renal Nutrition and Metabolism
- Oral presentation of Randomized Clinical Trial at Budapest European Dialysis and transplantation Association (EDTA) Ketoanalogue Supplementation Preserves Renal Function But Decline in Renal Function is Observed after Withdrawing Supplementation - A Follow-up Study of Randomized Clinical Trial

Dr. Dharmendra Bhaduria

- Council Member of Indian Society of Organ Transplantation
- Council Member of North-zone chapter of Indian Society of Nephrology

Referee / Reviewer of the Journal

- Prof. Narayan Prasad - Indian Point of Care (Elsevier), Sub Editor - Indian Journal of Nephrology, Reviewer Seminar in Dialysis
- Dr. Anita Saxena: Journal of Renal Nutrition, Indian Journal of Nephrology, Journal of Endocrinology and Metabolism
- Dr. D.S. Bhaduria - Editorial Board Member, Indian Journal of Transplantation and reviewer of Indian Journal of Nephrology, Indian Journal of Transplantation, BMJ and IJMR.
- Dr. Monika Yachha - Reviewers of Indian Journal of Nephrology & BMJ Nephrology

Research Projects

Extramural projects

Prof. Narayan Prasad

- Role of Levothyroxine on progression of Chronic Kidney Disease in subclinical hypothyroid populations - A Multicentric randomized controlled trial funded by Indian Council of Medical Research, New Delhi.
- Role of vascular endothelial growth factor on acute renal allograft rejection. ICMR funding IEC 2014-205-EMP-EXP PGI/BE/895/2014- ICMR -no.5/4/7-7/2014-NCD.
- Indian Chronic Kidney Disease (ICKD) study (AN1-VI/SGSOP 08/V1) funded by DBT, New Delhi.
- Therapeutic Evaluation of Steroids in IgA Nephropathy Global low dose study (TESTING study INDIA) (GI-R-01-2011)-SGPGIMS site - Sponsored by ICMR, New Delhi.
- To establish a registry of epidemiology, clinical characteristics and outcomes of AKI in India. IEC 2017-113-EMP-97/PGI/BE/478/2017 - II - sponsored by Indian Society of Nephrology.

Clinical drug trials

- A phase 3 randomized, open label (sponsor - blind), active controlled, parallel group,

multicenter, event driven study in non-dialysis subjects with anemia associated with chronic kidney disease to evaluate the safety and efficacy of daprodustate compared to darbepoetin alfa funded by GSK.

- A Randomized, Double-blind, event-driven, Placebo-Controlled, Multicenter Study of the Effects of Canagliflozin on Renal and Cardiovascular Outcomes in Subjects with Type 2 Diabetes Mellitus and Diabetic Nephropathy (*CREDENCE Study- IN00132*).
- FLOW-Effect of semaglutide versus placebo on the progression of renal impairment in subjects with type 2 diabetes and chronic kidney disease funded by Novo Nordisk.

Dr. Anita Saxena

- Effect of Curcumin in Ameliorating Inflammation, Oxidative Stress and on Preventing Decline in Renal Function in Chronic Kidney Disease.
- Association of Metabolic Syndrome, Insulin Resistance, Inflammation and Oxidative Stress with Protein Energy Wasting in Pre-Dialysis Chronic Kidney Disease Patients (Stages 2 to 5).

Drug Trial:

- A prospective, double blind, randomized, placebo controlled Interventional study to evaluate the safety and efficacy of Enzobiotics (Synbiotics and Proteolytic Enzymes) in pre dialysis kidney disease patients.

Dr. D.S. Bhadauria

- Evaluation of clinical and environmental factors associated with chronic kidney disease of unknown origin (CKDu) in India. IEC 2017-92-IP-97 PGI/BE/501/2017 Sponsored by Indian Society of Nephrology.

Dr. Monika Yachha

Intramural Project

- Serum galactose-deficient IgA1 as a potential biomarker for monitoring disease activity and response to therapy in IgA nephropathy. IEC code: 2020-252-IMP-EXP-29.

Publications

Original Articles

1. Agarwal SK, Prasad N. Covid-19: Why the kidney care is so much affected? Indian J Nephrol 2020;30:141-2.(Editorial)
2. Anita Saxena Angiotensin-converting Enzyme 2 (ACE 2) - a boon or a bane? Gastrointestinal and Renal involvement In COVID-19 Editorial JRNM Vol 6, Issue 2 2020.
3. Anita Saxena COVID-19 A Global Health Pandemic: Safeguarding Health Care Editorial JRNM Vol 6, Issue 1 2020
4. Anita Saxena Standard Treatment Guidelines Haemodialysis Ministry of Health & Family Welfare Govt. of India Nutrition Guidelines for Indian patients on hemodialysis, Revised Indian Society of Nephrology Guidelines: in print (or published) in Indian Journal of Nephrology 2019-20 First published in 2013.
5. Asif Wani, Anupma Kaul, Dharmendra Singh Bhadauria, Zafirah Zahir, Narayan Prasad, Amit Gupta, Raj Kumar Sharma. Red Herrings in Crossmatching Kidneys for Transplant. Saudi J Kidney Dis Transpl 2020;31(1):289-293.

6. Bhadauria D, Thammishetti V, Goel A, Kaul A, Kushwah RS, Behera M, Gupta A, Prasad N. An Analysis of Epidemiology, Etiology, and Outcomes of Acute Pancreatitis in Renal Transplant Recipients. *Transplant Proc.* 2020Apr;52(3):865-872.
7. Bhadauria D, Thammishetti V, Goel A, Kaul A, Kushwah RS, Behera M, Gupta A, Prasad N. An Analysis of Epidemiology, Etiology, and Outcomes of Acute Pancreatitis in Renal Transplant Recipients. *Transplant Proc.* 2020 Mar 4. pii: S0041-1345(19)31503-9. doi: 10.1016/j.transproceed.2020.01.039. [Epub ahead of print]
8. Diet in patients with chronic kidney disease. Accepted in the UpToDate India Point-of-Care tool
9. Dr Anita Saxena Host Airway Defence System Classroom Reading JRNM Vol 6, Issue 2 2020
10. Fernando E, Gang S, Prasad N, Chaudhary AR, Agarwal SK, On behalf of COVID-19 Working Group of Indian Society of Nephrology. Anti-corona Drugs: Current scenario. *Indian J Nephrol* 2020;30:179-84.
11. GBD Chronic Kidney Disease Collaboration (NarayanPrasad). Global, regional, and national burden of chronic kidney disease, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet.* 2020;395(10225):709-733. doi:10.1016/S0140-6736(20)30045-3
12. Goel A, Bhadauria DS, Kaul A, Verma A, Tiwari P, Rungta S, Rai P, Gupta A, Aggarwal R. Acute hepatitis C treatment in advanced renal failure using 8 weeks of pan-genotypic daclatasvir and reduced-dose sofosbuvir. *Nephrol Dial Transplant.* 2020 Oct 23:gfaa187. doi: 10.1093/ndt/gfaa187. Epub ahead of print. PMID: 33097949.
13. Gulati S, Prasad N, Sahay M, Kute V, Agarwal SK, On behalf of COVID-19 Working Group of Indian Society of Nephrology. Glomerular diseases with reference to COVID-19. *Indian J Nephrol* 2020;30:158-60.
14. Jeloka T, Gupta A, Prasad N, Varughese S, Mahajan S, Nayak KS, On behalf of COVID-19 Working Group of Indian Society of Nephrology. Peritoneal dialysis patients during COVID 19 pandemic. *Indian J Nephrol* 2020;30:171-3.
15. Ktistler BM Moor LW, Debbie Brenner..... Anita Saxena, Kamyar Kalantar Zadeh. The International Society of Renal Nutrition and Metabolism Commentary on the National Kidney Foundation and Academy of Nutrition and Dietetics KDOQI Clinical Practice Guideline for Nutrition Nutrition and Metabolism Commentary in chronic kidney disease JREN 2020
16. Kumari M, Mohan A, Ecelbarger CM, Gupta A, Prasad N, Tiwari S. miR-451 Loaded Exosomes Are Released by the Renal Cells in Response to Injury and Associated With Reduced Kidney Function in Human. *Front Physiol.* 2020;11:234. Published 2020 Apr 8. doi:10.3389/fphys.2020.
17. Kute V, Guleria S, Prakash J, Shroff S, Prasad N, Agarwal SK, Varughese S, Gupta S, K Gokhale AG, Sahay M, Sharma A, Varma P, Bhalla A, Vardhan H, Balwani M, Dave S, Bhadauria D, Rathi M, Agarwal D, Shah P, Ramesh V, Garg R. NOTTO Transplant Specific Guidelines with Reference to COVID-19. *Indian J Nephrol.* 2020 Jul-Aug;30(4):215-220. doi: 10.4103/ijn.IJN_299_20. Epub 2020 Aug 18. PMID: 33273783; PMCID: PMC7699665.
18. Kute V, Guleria S, Prakash J, Shroff S, Prasad N, Agarwal SK, *et al.* NOTTO transplant specific guidelines with reference to COVID-19. *Indian J Transplant* 2020;14:85-9.
19. Kute V, Varugese S, Prasad N, Shroff S, Agarwal SK, On behalf of COVID-19 Working Group of Indian Society of Nephrology. Renal transplant guidelines with reference to COVID-19 infection. *Indian J Nephrol* 2020;30:176-8.
20. Lal H, Singh RKR, Yadav P, Yadav A, Bhadauria D, Singh A. Non-contrast MR angiography versus contrast enhanced MR angiography for detection of renal artery stenosis: a comparative analysis in 400 renal arteries. *AbdomRadiol (NY).* 2020 Nov 2. doi: 10.1007/s00261-020-02836-5. Epub ahead of print. PMID: 33136181

21. Lobo V, Khanna U, Rajapurkar M, Mahapatra HS, Verma H, Prasad N, On behalf of COVID-19 Working Group of Indian Society of Nephrology. Guidelines for dialysis with reference to COVID-19. *Indian J Nephrol* 2020;30:166-70.
22. Mahajan S, Kohli HS, Gupta KL, Prasad N, Agarwal SK, On behalf of COVID-19 Working Group of Indian Society of Nephrology. Infection prevention and control guidelines for COVID. *Indian J Nephrol* 2020;30:185-7.
23. Manju Kumari, Aradhana Mohan, Carolyn Mary Ecelbarger, Anita Saxena, Amit Gupta, Narayan Prasad, Swasti Tiwari :MiR-451 loaded exosomes are released by the renal cells in response to injury and associated with reduced kidney function in human Journal: *Frontiers in Physiology*, section Renal and Epithelial Physiology *Front. Physiol.*, 28 July 2020
24. Narayan Prasad, Harshit Singh, Akhilesh Jaiswal, Saurabh Chaturvedi, Vikas Agarwal. Overexpression of P-glycoprotein and MRP-1 are pharmacogenomic biomarkers to determine steroid resistance phenotype in childhood idiopathic nephrotic syndrome. *The Pharmacogenomics Journal*; TPJ202000040A Accepted.
25. Narayan Prasad, Manas Ranjan Patel, Ravi Kushwaha, Manas Ranjan Behera, Monika Yachcha, Anupama Kaul, Dharmendra Bhadauria, Suresh Kumar¹, Amit Gupta. Modalities of Diagnosis and Management of Peritoneal Dialysis-related Hydrothorax Including Videothoracoscopy-assisted Repair: A Single-center Experience. *IJN_101_20R4_CS*
26. Patel MP, Kute VB, Prasad N, Agarwal SK, On behalf of COVID-19 Working Group of Indian Society of Nephrology. COVID 19 and hemodialysis anxiety. *Indian J Nephrol* 2020;30:174-5.
27. Prasad N, Agrawal SK, On behalf of COVID-19 Working Group of Indian Society of Nephrology. COVID 19 and acute kidney injury. *Indian J Nephrol* 2020;30:161-5.
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31. Rath M, Jeloka T, Prasad N, Bansal S, Agarwal SK, Bhalla AK, On behalf of COVID-19 Working Group of Indian Society of Nephrology. Chronic kidney disease and hypertension with reference to COVID-19. *Indian J Nephrol* 2020;30:155-7 (CA)
32. Reviewed KDOQI guidelines for Nutrition in CKD as Member Expert For Review Panel To Work With The Kidney Disease Outcome Quality Special Initiative (KDOQI)". KDOQI Clinical Practice Guideline for Nutrition in CKD: 2020 Update KDOQI Clinical Practice Guideline for Nutrition in CKD: 2020 Update Author links open overlay panel T. Alp Ikizler Jerrilynn D. Burrowes Laura D. Byham- Gray Katrina L. Campbell Juan-Jesus Carrero et al *AJKD*, August 2020 Guidelines published *AJKD*, Volume 76, Issue 3, Supplement 1 September 2020, Pages S1-S107
33. Sahay M, Kute V, Prasad N. Corona, COVID and Kidney Transplantation. *Indian J Transplant* 2020;14:1-4. (Editorial)

34. SaikumarDoradla LP, Lal H, Kaul A, Bhaduarua D, Jain M, Prasad N, Thammishetti V, Gupta A, Patel M, Sharma RK. Clinical profile and outcomes of *De novo* posttransplant thrombotic microangiopathy. Saudi J Kidney Dis Transpl. 2020 Jan-Feb;31(1):160-168. doi: 10.4103/1319-2442.279936. PMID: 32129209
35. Trisha Sachan, Anita Saxena, Amit Gupta Effect of Dietary Counseling on Dietary Phosphorus Intake, Fibroblast Growth Factor 23 and Klotho in Chronic Kidney Disease Stages 1 and 2 Accepted in Saudi Journal of Kidney Disease and Transplantation 2020
36. Yadav Brijesh, Prasad Narayan¹, Agarwal Vikas², Agarwal Vinita³, Jain Manoj "Hidden Granzyme-B mediated injury in chronic active antibody-mediated rejection" Experimental and clinical transplantation. ECT-OA-06-20-0225 (accepted 14th July 2020).

Chapter in books

1. Narayan Prasad. Peritoneal dialysis" book "Postgraduate Medicine" Jaypee Brothers Medical Publishers Pvt. Ltd.
2. Narayan Prasad. Chronic Kidney Disease-Mineral Bone Disease: An Overview, Chapter 4; Academic wing of Association of Physicians of India (API)@2020 Indian College of Physicians, page-29-41
3. Challenges in Diet in Patients on Peritoneal Dialysis in Nutritional Challenges in CKD In South East Asia. Authors Dr. Anita Saxena and Dr. Amit Gupta Editor Dr. Georgi Abraham.
4. Anita Saxena and Amit Gupta Nutrition in postrenal transplant patient Editor Dr. Georgi Abraham and Dr. Anusha Hand book of renal transplantation in developing countries.
5. M.R. Patel. A Chronic Kidney Disease 5 Patient in Peritoneal Dialysis with Ultrafiltration Failure.

Conference Presentation / Invited Lectures

Prof. Narayan Prasad

- International Society of Nephrology and Indian Society of Nephrology. Topic AKI registry in India. 29th July 2020.
- ASN and the Indian Society of Nephrology Present: COVID-19 and the Kidney (*Recorded June 3, 2020*) *New Resource*.
- This webinar shares the experience of nephrology experts during the COVID-19 pandemic both in India and in the United States.
- International Society of Nephrology and Indian Society of Nephrology
- Poster talk ISN World congress of Nephrology 17 April 2020.
- Webinar Practical nephrology for Physicians. Renal Transplant: Physician perspective. 16th May 2020.
- IHMC council panel discussion. Live watch panel discussion (safe dialysis during COVID). 20th April 2020.
- Webinar, Odisha Nephrology Forum Web Panel and lecture. Managing a transplant patients with COVID-19. 6th April 2020.
- International Webinar (International Society of Nephrology COVID 19 and the Nephrologist) - Renal Transplantation and COVID-19, 25th April 2020.
- Webinar -(Updated ISOT transplant specific guideline during COVID-19) Situation update on COVID 19. 8th April 2020 .
- Webinar (ISOT event). Coronavirus infection and Renal risk, 4th April 2020

- Post-transplantation Monitoring of ABO incompatible transplantation: Protocol biopsies and Isoagglutinins. Transplantation Update 2020, 8th March 2020, NIMS Hyderabad.
- Invited lecture-How do you manage Ultrafiltration failure in PD patients? NZISNCON, Lucknow 2020 28th February 2020.

Prof. Anita Saxena

- Annual Conference of Indian Society of Nephrology – North Zone 2020, 28 February 2020 to 1st March 2020.
- Management of Hyperphosphatemia in Chronic Kidney Disease 18th Jan 2020.
- Conservative Management: Predialysis Management 18th Jan 2020 Nutritional Recommendations for CKD Stages 1-4
- Dietary Management of Essential Hypertension NZISNCON 2020
- Salt Reduction Aaj Sey Thoda Kam Eat Right India Net Pro Fan
- Nutritional approach to patients on irregular dialysis due to COVID 19 pandemic lockdown SRNMCON 2020
- Nutrition In Chronic Kidney Disease And Considerations in Extra-Ordinary Circumstances (COVID-19 Pandemic) National Webinar Netaji Subhash Chandra Bose University July 2020.
- Nutritional Management of Chronic Kidney Disease and Challenges in its Implementation EZISN 26th September 2020
- Nutrition In Oncology Patient On Hemodialysis I CNC 2020 February
- Nutrition Support in Patients undergoing Peritoneal Dialysis (PD) ESPEN LLL Course Topic 15 – Nutritional Support in Renal Disease
- Female Health And Nutrition “Mission Shakti Programme” Govt. of Uttar Pradesh Organized by National PG College, 19th October 2020
- Nutrition In Chronic Kidney Disease And Considerations In Extra-Ordinary Circumstances National Webinar June 2020

Prof. Anupma Kaul

- Heart failure & CKD. Annual Conference of North Zone of Indian Society of Nephrology, Lucknow, 28th February to 1st March 2020.

Dr. D.S. Bhadauria

- Desensitization from HLA antibody? Annual Conference of North Zone of Indian Society of Nephrology, Lucknow, 28th February to 1st March 2020.

Dr. Manas Ranjan Patel

- Nephrotic syndrome and its nutritional management. 6th Advance Course in Renal Nutrition and Metabolism, Society of Renal Nutrition and Metabolism, Lucknow, 19 Jan 2020.
- Management of hypertension and hyperuricemia in diabetic nephropathy. 6th Advance Course in Renal Nutrition and Metabolism, Society of Renal Nutrition and Metabolism, Lucknow, 19 Jan 2020.
- Acute lung injury in AKI. Annual Conference of North Zone of Indian Society of Nephrology, Lucknow, 28th February to 1st March 2020.

Dr. Monika Yachha

- Nutritional management of Metabolic Syndrome. 6th Advance Course in Renal Nutrition and

Metabolism, Society of Renal Nutrition and Metabolism, Lucknow, 19 Jan 2020.

- Interesting Case presentation - Annual Conference of North Zone of Indian Society of Nephrology, Lucknow, 28th February to 1st March 2020.

Dr. Manas Ranjan Behera

- Natural course of diabetic nephropathy. 6th Advance Course in Renal Nutrition and Metabolism, Society of Renal Nutrition and Metabolism, Lucknow, 19 Jan 2020.
- Interesting Case presentation - Annual Conference of North Zone of Indian Society of Nephrology, Lucknow, 28th February to 1st March 2020.

Dr. Ravi Shankar Kushwaha

- Follow up and Nutritional advise for VKD. 6th Advance Course in Renal Nutrition and Metabolism, Society of Renal Nutrition and Metabolism, Lucknow, 19 Jan 2020.
- How do you optimize potassium level in patients on dialysis? Annual Conference of North Zone of Indian Society of Nephrology, Lucknow, 28th February to 1st March 2020.

Organized conference/workshop

1. 6th Advance Course in Renal Nutrition and Metabolism from 18th to 19th January 2020
2. Annual Conference of Indian Society of Nephrology - North Zone 2020, 28 February 2020 to 1st March 2020.

Future Plans

A. Clinical

1. Advanced Renal & Transplant Centre- By 2021, we are going to have “Advanced Renal and Transplant Centre”. The department will have the capacity of 208 beds including 111 dialysis stations, which will be the largest dialysis provider in India. It will enable us to provide maintenance hemodialysis to the people as well which is not possible at present because of high load of acute care and bridging the ESRD patients to renal transplantation consume capacity and infrastructure. The advance transplant centre will have 6 operation theatres, which will enable the capacity with 2-3transplant per day. The department intends to increase the number of transplants mainly through increasing deceased donors and swap transplants.
2. Critical Care Nephrology -Department is planning to increase no of beds from 8 to 24 in next 5 years.
3. Intervention in Nephrology - Department is planning to have one more fluoroscope and DSA to facilitate intervention nephrology programme.
4. Division of Pediatric Nephrology - Department proposes to start pediatric nephrology unit in next 5 year.
5. Renal &Transplant Immunology Lab- Department also plans to upgrade transplant immunology lab and intend to provide for HLA typing by next generation sequencing, CDC cross match, DNA figure-printing and testing for non-HLA antibody.
6. Advance Centre For Prevention of Malnutrition In Chronic Kidney Disease
7. Patient Education and Training – Department planning to improve patient education and training through
 - a. Counsellor
 - b. Medical Social Worker

- c. Psychologist
- d. Renal Nutritionist (by strengthening existing one)
- e. Audio-visual programme

B. Teaching and Training Activities

Department also wants open new course and increase existing seats as below

1. Post-Doctoral Fellowship (PDF) in Critical Care Nephrology
2. Post-Doctoral Certificate Course In Dialysis
3. Advance Certificate Course In Renal Nutrition
4. Post-Doctoral Fellowship in Transplant Immunology
5. Increase seats for Post-Doctoral Fellowship (PDF) in Renal Transplantation
6. Increase seats for Doctorate in Medicine (DM) in Nephrology

Research Activity

To enhance the research activity, department planning to achieve following objectives

1. Upgrading research lab to facilitate cell culture and genomic studies.
2. Strengthening of transplant immunology research facility

Covid related highlights

1. The department of Nephrology is one of the busiest departments in this institute, which provide management of all kidney related ailments. It caters patients from Uttar Pradesh, Bihar, Uttarakhand, and Madhya Pradesh and from the neighbouring countries as well.
2. The department has a large dialysis unit, which provides 3000 to 3500 dialysis sessions to 276 MHD patients, each month and 105 renal transplant recipients.
3. Leadership: The department is presently the secretariat of Indian Society of Nephrology (Narayan Prasad, Hon Secretary), and played a key role in formulating guidelines for the maintenance dialysis patients during COVID period. It was an emergency for these patients as the patients on dialysis could not survive without dialysis beyond few days. The guideline was adopted by ministry of health and family welfare, Govt of India and enforced across all states in India.
4. Dr Prasad also played a vital role in formulating guidelines for transplantation as member of governing body Indian Society of Organ Transplantation as well. The guideline was adopted by National Organ and Tissue Transplant Organization (NOTTO).
5. Academic activities: The academic activities (case discussion, seminar and journal clubs) of the department were never suspended. The department quickly subscribed the WebEx platform for the academic activities.
6. Dr Prasad collected data from different part of India, which was published in a reputed Journal of Nephrology, Kidney International reports with good impact factor of 3.34. One entire issue of Indian Journal of Nephrology dedicated to the care of COVID during the pandemic was published under his editorial review.

Service

1. Dialysis services: It was challenging to provide dialysis to this enormous number of MHD patients. The screening and prevention of SARS-CoV-2 in the MHD unit, was adopted. The

department made the protocol for the dialysis at institute, which was approved by the director. Dialysis facilities were created at four different places: 1. Main dialysis unit, 2. Holding area 3. Rajdhani COVID hospital-1 and 4. RCH-II. None of the patients needing dialysis were refused. All COVID suspect patients were dialysed in Holding area. We are proud to say, we have provided 1400 dialysis sessions to 295 COVID positive patients at RCH.

2. OPD and Indoor services: Department was instrumental in providing eOPD and physical OPD during the COVID period. Approximately 4000 patients were consulted through eOPD during these days. The Indoor and intensive care unit by department of Nephrology had 100% bed occupancy throughout the COVID period.
3. Transplant Services: The transplantation was temporarily suspended for a few months initially in April and May 2020; however, the department resumed renal transplantation gradually and approximately 15 renal transplantation was performed during this period. Moreover, we continued admitting our renal transplantation patients with complications with approximately 100% occupancy of the Kidney Transplant Units.
4. Renal and Transplant Immunology lab services: The renal lab continuously supported the all the services of the department and institute as well whenever required. The lab is the backbone of the renal transplantation, and the lab performed all the services required for successful transplantation at the institute or beyond the institute.

DEPARTMENT OF NEUROLOGY

STAFF

Name of Faculty Members:

- | | | |
|----|---------------------------|---------------------|
| 1. | Dr. Sunil Pradhan | Professor and Head |
| 2. | Dr. G. N. Babu | Professor |
| 3. | Dr. Jayantee Kalita | Professor |
| 4. | Dr. Sanjeev Jha | Professor |
| 5. | Dr. Vimal Kumar Paliwal | Professor |
| 6. | Dr. Vinita Elizabeth Mani | Assistant Professor |
| 7. | Dr. Ruchika Tandon | Assistant Professor |

Residents 18 DM residents

New registrations	Follow-up
3605	11,111

Patient Care Services

a) OPD services

b) IPD Admissions

Ward-A	Ward-B	Total
542	182	724

Investigations & Procedures

Neurophysiology:

- EEG - 504
- NCV/EMG - 917
- Evoked potentials - 102

Honors & Awards

Dr. Sunil Pradhan

- Awarded DSc by the Hemwati Nandan Bahuguna Uttarakhand Medical Education University, Dehradun in 2020.

Referee / Reviewer of a Journal

Dr. Sunil Pradhan

- Elsevier Editorial System & Science Direct
- The Lancet
- Epilepsia
- European Journal of Neurology
- Acta Neurologica Scandinavica
- Clinical Neurology and Neurosurgery (CNN)
- Journal of the Neurological Sciences

- Neurology India / Annals of Indian Academy of Neurology
- Indian Journal of Medical Research (IJMR)

Dr. G. N. Babu, Professor

- Experimental Neurology
- Neurochemistry International
- Journal of Neurochemistry
- Neuroscience Letters

Dr. Jayantee Kalita

- Eur J Neurosci
- Trans R Soc Trop Med Hyg
- Sleep Med
- Am J Med
- J Spinal Cord Med
- Acta Neurol Belg
- Ann Indian Acad Neurol
- Neurol India
- J Mol Neurosci
- J Clin Neurosci
- Neurotoxicology
- FRONTIER NEUROLOGY
- IJMR
- CNN
- JNNP
- IJTLD
- Neurology
- Journal of neurology
- BMJ Case report
- Stroke
- JSCVD
- Brain Research
- Epilepsy research

Dr. Vimal Kumar Paliwal

- Neurology (Green)
- Practical Neurology
- Acta Neurologica Scandinavica
- Neurology India
- Annals of Indian Academy Neurology
- Multiple Sclerosis
- IJMR

Dr. Vinita Elizabeth Mani

- Neurology India
- Journal of Neurosciences in Rural Practice

Research Projects

S. No.	Title of Projects	Name of PI	Funding Agency (to be given for all)	Amount	Date of Sanction and Duration
1.	Expression of death and survival signals in Tuberculous meningitis: Correlation with disease severity and outcome.2018	Dr. Jayantee Kalita	Intramural		Ongoing
2.	Clinical trial to assess the efficacy and safety of TNK-TPA in Acute Ischemic Stroke.	Dr. Jayantee Kalita	Extramural		Ongoing
3.	A Prospective, Multicentric, Randomized, Double Blind, Parallel, Saline Controlled Phase II Clinical Study to Compare the Safety and Efficacy of PMZ-1620 Therapy along with Standard Supportive Care in Subjects of Acute Ischemic Stroke.	Dr. Jayantee Kalita	Extramural		Ongoing
4.	A Prospective, Multicentric, Randomized, Double Blind, Placebo Controlled Phase II Clinical Study to Compare the Safety and Efficacy of PMZ-1620 Therapy along with Standard Supportive Care in Subjects of mild to moderate Alzheimer's disease.	Dr. Jayantee Kalita	Extramural		Ongoing
5.	11C-PIB PET/CT in suspected patients of dementia and mild cognitive impairment: value addition over standard clinico-imaging work-up	Dr. Vimal K. Paliwal (Co-principle Investigator)			2019-2021
6.	The effect of Ketogenic diet on expression of p-glycoprotein, HDAC and micro particles in childhood refractory epilepsy	Dr. Vimal K. Paliwal	Intramural	5 lac	2019 - 2020
7.	MRI evaluation of structural and micro structural changes in brain in patients with Hemisensory neurological syndromes	Dr. Vimal K. Paliwal (Co-principle Investigator)			2018-2020

8.	Role of GeneXpert MTB/RIG assay in detecting Mycobacterium Tuberculosis in specimen obtained by CT-guided needle aspiration and biopsy from the vertebral lesions	Dr. Vimal K. Paliwal (Co-principle Investigator)			2018-2020
9.	An observational study on the safety and efficiency of edaravone in ALS.	Dr. Vinita E. Mani,			Completed
10.	A study of the psychosocial impact of COVID-19 on adults.	Dr. Vinita E. Mani,			Completed
11.	Impact of COVID-19 on the mental health of healthcare workers in a tertiary care institute	Dr. Vinita E. Mani,			Completed
12.	A study of the clinical, laboratory and radiological profiles, etiology and outcomes in patients with AES to identify the uncommon causes of AES in UP.	Dr. Vinita E. Mani,			Ongoing
13.	Stress among nurses in the era of COVID-19	Dr. Vinita E. Mani			Ongoing
14.	Assessment of neurocognitive dysfunction and CRSD in patients with OSAS.	Dr. Vinita E. Mani, (Co-principle Investigator)	Intramural		Ongoing
15.	Skeletal muscle function and pulmonary function abnormalities in patients with hyperparathyroidism	Dr. Vinita E. Mani, (Co-principle Investigator)	Intramural		Ongoing
16.	Implications of pre op frailty as a risk for post op delirium in elderly patients with non-cardiac surgery.	Dr. Vinita E. Mani, (Co-principle Investigator)	--		Ongoing
17.	Smell Testing in Parkinson-plus patients.	Dr. Ruchika Tandon	Intramural		Ongoing
18.	Gene Xpert assay in TBM.	Dr. Ruchika Tandon	Intramural		Ongoing
19.	Questionnaire based telemedicine neurology OPD study.	Dr. Ruchika Tandon	Intramural		Ongoing

Publications

1. Ambwani V, Dongre N, Singh V, Paliwal VK. Fluorosis causing spinal cord compression. Pract Neurol. 2020 Aug 7;practneurol-2020-002618. doi: 10.1136/practneurol-2020-002618. Epub ahead of print. PMID: 32769148.

2. Das A, Babu GN, Gupta A, Kanaujia V, Paliwal VK. Vivid visual hallucinations in visually impaired: Charles bonnet syndrome – An analog to “phantom-limb phenomenon”. *Ann Indian AcadNeurol*2020;23:734-5.
3. Dongre N, Singh VK, Kalita J, Misra UK. Vitamin B12 deficiency presenting as acute febrile encephalopathy and retinopathy. *Postgrad Med J*. 2020 Mar postgradmedj-2020-137520.
4. Donovan J, Cresswell FV, Thuong NTT, Boulware DR, Thwaites GE, Bahr NC; Tuberculous Meningitis International Research Consortium. Xpert MTB/RIF Ultra for the Diagnosis of Tuberculous Meningitis: A Small Step Forward. *Clin Infect Dis*. 2020 Nov 5;71(8):2002-2005
5. Garg RK, Paliwal VK, Gupta A. Encephalopathy in patients with COVID-19: A review. *J Med Virol*. 2020 Jun 19. doi: 10.1002/jmv.26207. Online ahead of print.PMID: 32558956
6. Gupta A, Paliwal VK, Garg RK. Is COVID-19-related Guillain-Barré syndrome different? *Brain Behav Immun*. 2020 Jul;87:177-178. doi: 10.1016/j.bbi.2020.05.051. Epub 2020 May 20. PMID: 32445789
7. Gupta P, Muthukumar N, Rajshekhar V, Tripathi M, Thomas S, Gupta SK, Lal V, Pal P, Abraham M, Behari S, Paliwal VK, Singh D, Pandey S, Narasimhan L, Srinivas D, Panda S, Kale S S, Chandra P S. Neurosurgery and Neurology Practices during the Novel COVID-19 Pandemic: A Consensus Statement from India. *Neurol India* 2020;68:246-54.
8. Kalita J, Dongre N, Misra UK. Myasthenic crisis due to anxiety and insomnia during COVID -19 pandemic. *Sleep Med*. 2020 Nov;75:532-533
9. Kalita J, Kumar M, Misra UK. Serial single breath count is a reliable tool for monitoring respiratory functions in Guillain-Barré Syndrome. *J Clin Neurosci*. 2020 Feb;72:50-56.
10. Kalita J, Kumar V, Misra UK, Bora HK. Movement Disorder in Copper Toxicity Rat Model: Role of Inflammation and Apoptosis in the Corpus Striatum. *Neurotox Res*. 2020 Apr;37(4):904-912.
11. Kalita J, Kumar V, Misra UK, Kumar S. Movement Disorder in Wilson Disease: Correlation with MRI and Biomarkers of Cell Injury. *J MolNeurosci*. 2020 Jul 13.
12. Kalita J, Kumar V, Misra UK, Parashar V, Ranjan A. Adjunctive Antioxidant Therapy in Neurologic Wilson’s Disease Improves the Outcomes. *J MolNeurosci*. 2020 Mar;70(3):378-385.
13. Kalita J, Misra UK, Bansal R. Phonophobia and brainstem excitability in migraine. *Eur J Neurosci*. 2020 Dec 10.
14. Kalita J, Misra UK, Singh VK, Pandey PC, Thomas J. Inclusion of Mechanical Ventilation in Severity Staging of Tuberculous Meningitis Improves OutcomePrediction. *Am J Trop Med Hyg*. 2020 May 26.
15. Kalita J, Misra UK. Disease Specific Seasonal Influence- Geography and Economy Matters. *Ann Indian Acad Neurol*. 2020 Jan-Feb;23(1):3-4.
16. Kalita J, Pandey PC, Misra UK. Starry Sky In Disseminated Tuberculosis. *Am J Med*. 2020 Nov 2:S0002-9343(20)30937-2.
17. Kalita J, Vibhute A, Kumar M, Misra UK. Myelopathy in West Nile virus encephalitis: Report of a case and review of literature. *J Spinal Cord Med*. 2020 Jul;43(4):444-448.
18. Kalita J, Vibhute A, Kumar M, Misra UK. Myelopathy in West Nile virus encephalitis: Report of a case and review of literature. *J Spinal Cord Med*. 2020 Jul;43(4):444-448.
19. Kumar A, Kalita J, Sinha RA, Singh G, B A, Shukla M, Tiwari S, Dhole TN, Misra UK. Impaired Autophagy Flux is Associated with Proinflammatory Microglia Activation Following Japanese Encephalitis Virus Infection. *Neurochem Res*. 2020Jul 1.
20. Mani VE, Sarkar Z, Gutti NB. A Study of the Impact of the COVID-19 Pandemic on Anxiety Levels of Young Adults in India. *J. Evolution Med. Dent. Sci*. 2020;9(31); 2233-2238.

21. Mehrotra A, Singh S, Kanjilal S, Kumar A, Pal L, Mathur V, Paliwal VK, Sardhara J, Bhaisora KS, Srivastava AK, Jaiswal AK, Behari S. Long-Term Epilepsy-Associated Tumors (LEATs): A Single-Center, Retrospective Series and Review of Literature on Factors Affecting the Seizure Outcome. *World Neurosurg.* 2020 Dec;144:e149-e155. doi: 10.1016/j.wneu.2020.08.036. Epub 2020 Aug 10. PMID: 32791221.
22. Mehrotra A, Singh S, Kanjilal S, Pal L, Paliwal VK, Sardhara J, Behari S. Seizure-outcome after surgery of low-grade epilepsy associated neuro-epithelial tumors. *J Neurosurg Sci.* 2020 Dec 15. doi: 10.23736/S0390-5616.20.05144-9.
23. Mehrotra A, Singh S, Kanjilal S, Pal L, Paliwal VK, Sardhara J, Verma PK, Maurya VP, Bhaisora KS, Das KK, Srivastava AK, Jaiswal AK, Behari S. Factors affecting seizure outcome in Long-term epilepsy associated tumors (LEATs) in children and young adolescents. *Clin Neurol Neurosurg.* 2020 Oct;197:106104. doi: 10.1016/j.clineuro.2020.106104. Epub 2020 Jul 23. PMID: 32738652
24. Mehrotra A, Singh S, Kanjilal S, Attri G, Paliwal VK, Mani VE et al. Resistant Temporal Lobe Epilepsy: Initial Steps into a Bigger Epilepsy Surgery Program. *J Neurosci Rural Pract* Nov 2020 (Online ahead of print).
25. Misra UK, Kalita J, Kumar M, Tripathi A, Mishra P. Complications of tuberculous meningitis and their effect on outcome in a tertiary care cohort. *Int J Tuberc Lung Dis.* 2020 Nov 1;24(11):1194-1199.
26. Misra UK, Kalita J, Singh VK, Kumar S. A study of comorbidities in myasthenia gravis. *Acta Neurol Belg.* 2020 Feb;120(1):59-64.
27. Misra UK, Kalita J, Tripathi A, Mishra P. Oxidative stress and ER stress may contribute to drug-induced hepatitis in tuberculous meningitis. *J Neurol Sci.* 2020 Jul 15;414:116825.
28. Misra UK, Kumar M, Kalita J. Standard versus sequential anti-tubercular treatment in patients with tuberculous meningitis: a randomized controlled trial. *Trans R Soc Trop Med Hyg.* 2020 Nov 25:traa144
29. Misra UK, Kumar S, Singh VK, Dubey D, Kalita J. Noninvasive Ventilation in Myasthenia Gravis. *Neurol India.* 2020 May-Jun;68(3):648-651.
30. Misra UK, Singh SK, Kalita J, Kumar A. Astrocyte activation following nitrous oxide exposure is related to oxidative stress and glutamate excitotoxicity. *Brain Res.* 2020 Mar 1;1730:146645.
31. Misra UK, Warriar S, Kalita J, Kumar S. MRI findings in Pott's spine and correlating clinical progress with radiological findings. *Neuroradiology.* 2020 Jul;62(7):825-832.
32. Paliwal VK, Anand S, Singh V. Pyogenic Brain Abscesses in a Patient With Digital Clubbing. *JAMA Neurol.* 2020 Jan 1;77(1):129-130. doi: 10.1001/jamaneurol.2019.3327. PMID: 31589274.
33. Paliwal VK, Garg RK, Gupta A, Tejan N. Neuromuscular presentations in patients with COVID-19. *Neurol Sci.* 2020 Nov;41(11):3039-3056. doi: 10.1007/s10072-020-04708-8. Epub 2020 Sep 15. PMID: 32935156
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35. Pradhan S, Das A, Ghosh J. Step-Headache: A Distinct Symptom of Migraine. *J Neurosci Rural Pract.* 2020 Jan;11(1):89-94. doi: 10.1055/s-0039-3400197. Epub 2020 Jan 27. PMID: 32140009; PMCID: PMC7055603.
36. Pradhan S, Das A, Mulmuley M, Das A. Neurocysticercosis or tuberculoma -Which one has more epileptic potential? *Seizure.* 2020 May;78:91-95. doi:10.1016/j.seizure.2020.03.007. Epub 2020 Mar 16. PMID: 32278296.

37. Pradhan S, Das A, Singh H, Chaturvedi S, Singh K, Mishra R, Misra DP, Agarwal V. Steroid Responsiveness in Duchenne Muscular Dystrophy - Predictive Value of Epigenetic Regulator Histone Deacetylase 2. *Indian J Pediatr.* 2020 Sep;87(9):692-698. doi: 10.1007/s12098-020-03183-5. Epub 2020 Apr 20. PMID: 32314166.
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40. Sachan A, Singh VK, Kalita J, Misra UK. Baclofen encephalopathy: uncommon side effect of a common drug. *Postgrad Med J.* 2020 Feb postgradmedj-2020-137487.
41. Singh VK, Jain N, Kalita J, Misra UK, Kumar S. Significance of recanalization of sinuses and resolution of parenchymal lesion in cerebral venous sinus thrombosis. *J Clin Neurosci.* 2020 Jul;77:175-180.
42. Srivastava AK, Singh S, Khatri D, Jaiswal AK, Sankar R, Paliwal VK, Neyaz Z, Sharma K, Behari S. Endoscopic Endonasal Optic Nerve Decompression with Durotomy: Pis Aller in the Mind of a Blind. *Neurol India.* 2020 Jan-Feb;68(1):54-60. doi: 10.4103/0028-3886.279701. PMID: 32129244.
43. Tandon R, Mittal M, Goyal AK. External capsular hyperintensities in Wilson's disease presenting with refractory status epilepticus. Accepted in *Neurology India*. 2020.
44. Verma R, Paliwal VK. Idiopathic inflammatory myopathy: From muscle biopsy to serology. *Indian J Rheumatol* [Epub ahead of print] [cited 2020 Dec 18].

Conference Presentations

Dr. G. N. Babu

International

- G. Babu, M. Gupta, V. Paliwal. Alpha-synuclein and Amyloid beta peptide 1-42 in Parkinson's disease and parkinsonian plus syndrome cohorts [abstract]. *Mov Disord.* 2020; 35 (suppl 1). MDS virtual congress 2020.

Dr. Jayantee Kalita

International

- EAN-2020 (23-26 May, 2020)

National

- IANCNPCON-2020 (14-16 August, 2020)
- Neurlogist-2020 (26-27 November, 2020)
- Wilson India-2020 (13-16 November, 2020)
- National Neuro update (21-22 February, 2020)
- International workshop on Epilepsy, 28 February, 2020

Dr. Vimal Kumar Paliwal

- 17th Oct 2020 Virtual Agrim Neurology Update (VANU 2020) – Lecture on Short-lasting headaches.
- 22nd and 23rd Feb 2020 UPUK Neurocon – Lecture on Trigeminal Autonomic Cephalalgias.
- 5th Sept 2020 Migraine Expert Speak – Migraine: Pitfalls in diagnosis and Management Tips.

- 18th July 2020 – Lucknow Obs&Gyn Society (LOGS) - Invited as expert for discussion on a case of Cerebral venous sinus thrombosis and eclampsia.

Dr. Ruchika Tandon**International**

- As a speaker in cannabis induced stroke in TMedPM 2020 (online) in Thailand in 2020.

National

- Talk in Talk in telemedicine, SGPGIMS, Lucknow on Parkinson's disease in 2020.
- Talk in Talk in telemedicine, SGPGIMS, Lucknow on migraine in 2020.
- Chaired as well as a speaker a session in 2018 in "Winners 2020".
- Paper presentation in 'MDSICON 2020'.

Workshop / Conference Organized**Dr. Jayantee Kalita**

- Skill enhancement in Clinical Neurophysiology through Telemedicine department (Tele Neurology Consortium)

Dr. Ruchika Tandon

- Organized a conference and a speaker in telemedicine department of SGPGIMS, Lucknow on Deep Brain Stimulation, medical and surgical aspects in 2020 with the department of Neurology and Neurosurgery.

COVID related highlights**Dr. Sanjeev Jha**

- In-charge Roster Committee for Rajdhani Covid Hospital Lucknow from July 2020 to 31st Dec 2020.

Dr. Vimal Kumar Paliwal

- In-charge Roster Committee for Rajdhani Covid Hospital Lucknow from July 2020 to 31st Dec 2020.

Dr. Vinita Elizabeth Mani

- Incharge of Covid emergency (T3) in RajdhaniCovid Hospital
- Member of the Covid triage committee
- Member of the Covid roster committee for Rajdhani Covid Hospital from July 2020 to 31st Dec 2020.
- Nodal Officer for Covid-19 for the Dept. of Neurology

Outstanding Features / Summary

1. The department of Neurology has always been in the forefront of clinical work, academic activities and research since its foundation. We run busy outpatient clinics, round the clock emergency services besides catering to inpatients, many of whom are critically ill requiring intensive care. We also have a neurophysiology lab where we perform electrophysiological tests, and a neurochemistry lab where various research projects are conducted. Our faculty

have numerous publications in internationally renowned journals, and the past year has been no exception.

2. We have initiated and are consolidating the epilepsy surgery program along with the dept. of Neurosurgery, and are also running an acute stroke and vascular intervention program along with Neuroradiology.
3. Our faculty have taken care of COVID-19 patients admitted in the ICU, HDU and Triage facilities of the Rajdhani Covid hospital, besides being in the forefront of roster making and triaging of patients there.
4. Dr. Sunil Pradhan (Professor and Head), was awarded Doctor of Science by the Hemwati Nandan Bahuguna Uttarakhand Medical Education University, Dehradun in 2020. He also received the Shri Ram Murti Pratibha Alankaran Award of Shri Ram Murti Smarak Medical College, Bareilly, UP in 2019.
5. Dr. Vimal K. Paliwal was promoted to Professor in 2020, and was felicitated by Kiran Bedi (Hon. Governor, Puducherry) and Mr Sandeep Singh (Former captain of the Indian Hockey Team) at Doctor's Day Conclave in 2019.

Vision of the Department for the next 5 years

In the immediate future, our department envisions to do the following

1. To set up a stroke unit
2. To improve the management of critically ill patients with the setting up of a dedicated Neuro ICU
3. To establish a departmental registry of patients OPD + IPD which will aid in research
4. To establish a sleep lab
5. To initiate specialty clinics in the afternoons
 - a. Refractory epilepsy clinic with epilepsy surgery
 - b. Movement disorders clinic with DBS
 - c. Neuroinfection clinic
 - d. Headache clinic
 - e. Neuromuscular clinic
6. To continue with the CME programs and Mini conferences
7. To hold a mortality meet once a month or as per need
8. To get a dedicated physiotherapist, speech therapist, counsellor and rehab specialist for neurology patients
9. To get an MRI machine for the neurosciences to aid in patient care and research

DEPARTMENT OF NEUROSURGERY

Faculties

1. Dr. Sanjay Behari	Professor and Head
2. Dr. Awadhesh Kumar Jaiswal	Professor
3. Dr. Arun Kr. Srivastava	Additional Professor
4. Dr Anant Mehrotra	Additional Professor
5. Dr Amit Keshri	Associate Professor
6. Dr Kuntal K Das	Assistant Professor
7. Dr Jayesh Sardhara Chunnilal	Assistant Professor
8. Dr Ravi Shankar	Assistant Professor
9. Dr Kamlesh S Bhaisora	Assistant Professor
10. Dr Pawan Kumar Verma	Assistant Professor
11. Dr Ved Prakash Maurya	Assistant Professor

Residents/ Students

M.Ch:	14
Post-doctoral fellows	05
SR (HS)	03 (Neuro-otology)
PDCC	02 (Neuro-otology)

Departmental Activities

Patient Care Services

• OPD Registration	16901
• Neurosurgical (including neuro-otology) operations	1092

Teaching & Training

M.Ch. Training Programme

1. The department is running 3 years M.Ch. training programme recognized by the Medical Council of India. Six candidates are selected once in each year by an open all India level competitive examination. These candidates receive hands-on training experience in all field of neurosurgery including micro-neurosurgery, spine surgery, vascular neurosurgery, pediatric neurosurgery, onco-neurosurgery and peripheral nerve injuries etc. They actively participate in the management of neurosurgical cases and departmental academic activities as pre-operative discussions, seminars, journal club, neuro-pathology and neuro-radiology conferences and group discussions. Four candidates have successfully completed their M.Ch. training in the last year. Currently the department is also having a Post-doctoral fellow in Pediatric Neurosurgery, Neurosurgical Oncology, Skull base and spine surgery, vascular neurosurgery, trauma neurosurgery, Neuro-endoscopy and Neuro-critical care which is offered by only a few centres in India. The department (Neuro-otology unit) also started Post-doctoral certificate course and has admitted the first batch of two students in the course.

Research

Research on various aspects of brain tumors, cranio-vertebral junction anomalies, complex aneurysm surgery, spinal dysraphism, cervical spondylotic myelopathy is ongoing.

1. Post-traumatic nerve regeneration pattern with autologous nerve graft and ultrathin silicon conduit in Rat model
2. Evaluation of BRAF gene status in glioma
3. Expression of ATRX and P53 mutations in gliomas
4. IIT-SGPGI Research Project
5. RBSK-SGPGI Cochlear Implant Project
6. Evaluation of 1p and 19q chromosome status in oligodendroglioma tumors
7. Role of serum biomarker in high grade glioma

Patents applied

1. Kartik PB, Tiwari N, Sardhara J, Behari S. C1/C2 distractor and reducer. Application number IPA 201711035521

Honors and awards

Sanjay Behari

- National Lectures at Sudanese Neurosurgical Society at Khartoum, Sudan on “Atlantoaxial dislocation: Some lesser known facts.” 9th to 12th February 2020
- National Lectures at Sudanese Neurosurgical Society at Khartoum, Sudan on “Advances in skull base surgery” 9th to 12th February 2020
- Cadaveric dissection of cavernous sinus triangles at 18th Instructional Course and 10th Foundation Course of Neurological Society of India, Kasturba Hospital, Manipal Institute of Medical Sciences, 14th and 15th February 2020
- Lumbar spine. Case demonstration. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Hands-on dorsal spine surgery/ Dorsal pedicle screw fixation. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Hands on cervical spine surgery: ACDF, lateral mass fixation, pedicle screw fixation, AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- C1-2 fixation techniques. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Hands on C1-2 transarticular fixations, C0-C2 fixations, odontoid screw fixation. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Case demonstration of craniocervical junction. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Adjacent segment disease. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Revision surgery in cervical fixation. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020

- “Anatomy of subaxial cervical spine surgery: Anterior and posterior approaches.” AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Brain stem death: Concepts and diagnosis. Lecture at 11th Organ Donation Day, Awareness Program and Public Forum, The Fundamentals of Organ Donation, Organised by UP State Organ and Tissue Donation and Department of Hospital Administration, SGPGIMS, Lucknow 27th November 2020.
- Speaker for Webinar on “Surgery for brain stem hemangioblastomas.” Care Hospitals, Hyderabad, Telangana, 20th April 2020
- Case based discussion on cervical spondylotic myelopathy. April 22, 2020. Resident presentation, Care Hospitals, Hyderabad, Telangana
- Case based discussion on low grade frontal glioma at the motor strip. April 2020, Resident presentation, Care Hospitals, Hyderabad, Telangana
- Speaker : Forty year old man presented with hoarseness of voice. Approach to diagnosis. Problem oriented clinical neurosurgery. Digital foundation course. Neurological Society of India May 31st 2020, 9am to 1pm.
- Speaker for the First Superspecialty CME webinar of Neurological Society of India and Congress of Neurological Surgeons, USA on Cerebrovascular Neurosurgery. Topic: Controversies in managing paraclinoid segment aneurysms. 8th September 2020
- Panelist for the webinar on “Management of various intracranial meningiomas.” Under the aegis of Fortis Escort Hospital, Jaipur. 13th August 2020
- Speaker for webinar “Understanding and managing intraventricular tumors”. Topic: Surgery for posterior third ventricular tumors. Under the aegis of Institute of Neurosciences and Spine, MGM Health Care, Chennai, September 10th, 2020
- Moderator for the webinar “Vascular Complications in Neurosurgery (Avoidance / Management) under the aegis of World Federation of Neurosurgical Societies, Neurosurgical complication Avoidance Subcommittee, 28th August 2020
- Moderator for the Neurosurgical Anatomy Webinar of Neurological Society of India “Surgical approaches to the middle cranial fossa.” August 1st, 2020
- Presenter for Neurosurgical Anatomy Webinar of Neurological Society of India “Surgical approaches to the orbit.” August 29th, 2020
- Panelist for webinar on ‘pediatric craniopharyngioma’ and ‘intramedullary tumor excision under neuro-monitoring’ under the aegis of Indian Society of Pediatric Neurosurgery and Park clinic Kolkata, 22nd September 2020
- Moderator in the webinar on ‘Transformation of idea to a saleable product and the role of patenting’ with IIT Kanpur, 26th October, 2020
- Webinar on “Ethics in service”, under the aegis of Neurological Society of India, 7th November 2020
- Panelist for webinar on “Clinical Assessment and Surgery for cerebellopontine angle tumors.”, , Interactive Webinar with Neurosurgical Residents. Neurosurgical TV. 5th December, 2020
- Speaker for 01 foundation course for residents 2020: Tele-health and tele-consult: The future of healthcare and the medicolegal issues. 30th November 2020
- Speaker: Brain: Mysteries and explorations. Mortal’s Well-Being Trust, La Martiniere College, Lucknow, 13th September 2020
- Speaker: Falcotentorial and velum interpositum meningiomas at webinar on Educational CME on cranial and spinal disorders, Grant Medical College and Sir JJ Group of Hospitals,

in association with LTMMC College and Sion Group of Hospitals. 5th December 2020, 3.50-4.10pm.

- Chairman, Case presentation on “cerebellopontine angle tumors” Resident TV 2020, 5th and 6th December 2020, 6 pm onwards
- Moderator of webinar on “Surgery for arteriovenous malformations” under the aegis of Virtual Asian Congress of Neurological Surgeons, 12th December, 2020. 1pm to 2pm session.
- Speaker at Telangana Neuroscience Society, Neurosurgery section: Surgery of paraclinoid segment aneurysms. 26th December 2020
- Speaker at Asian Congress of Neurological Surgeons, Japan: Management of craniocervical junction tuberculosis. 30th December 2020
- National Lectures at Sudanese Neurosurgical Society at Khartoum, Sudan on “Atlantoaxial dislocation: Some lesser known facts.” 9th to 12th February 2020
- National Lectures at Sudanese Neurosurgical Society at Khartoum, Sudan on “Advances in skull base surgery” 9th to 12th February 2020
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- Speaker at Telangana Neuroscience Society, Neurosurgery section: Surgery of paraclinoid segment aneurysms. 26th December 2020
- Speaker at Asian Congress of Neurological Surgeons, Japan: Management of craniocervical junction tuberculosis. 30th December 2020

- MCh Faculty selection, Neurosurgery and Neurootology, SGPGIMS, Lucknow, 18th Feb 2014, 21st June 2014, 6th June 2018, 8th August 2019, 10th December 2020
- Member, Selection Committee for faculty posts in Ram Manohar Lohia Institute of Medical Sciences, Lucknow, 2016, 2020
- MChNeurosurgeryExaminar, SGPGIMS
- External examinaer at final MD Examination in Neurosurgery at Sudanese Neurosurgery Council-Sudan Medical Specialisation Board 8th-12th February 2020.
- First examiner in India to conduct MCh examination (AIIMS Delhi) using teleconferencing facility in 2020.
- MCh Paper Examination, Department of Neurosurgery, Gauhati Medical College, SrimantaSankaradeva University of Health Sciences, Guwahati
- MCH Dissertation External Examiner PGI Chandigarh
- MS Surgery thesis examiner of PGI Chandigarh
- DNB Entrance Examiner, Vivekanand Hospital Institute of Medical Sciences, Lucknow
- DNB Exit Test Examiner, Vivekanand Hospital Institute of Medical Sciences, Lucknow
- External Examiner for Fellowship in Skull Base and Cerebrovascular Surgery practical examinartion, Department of Neurosurgery, AIIMS, New Delhi
- External Examiner for Fellowship in Epilepsy and Functional Neurosurgery practical examinartion, Department of Neurosurgery, AIIMS, New Delhi
- SGPGI neurosurgical theatre safety protocol and patient safety protocol establishment 1999
- Established preoperative room in neurosurgery 2020
- Member, Award Committee for SS Agarwal Award for Excellence in Research for residents for the year 2019-2020, SGPGIMS, Lucknow
- Member, Award Committee for Dr SR Naik for Excellence in Reseach for faculty members for the year 2019-2020
- Chairman, Award Committtee for excellent work rendered amongst employees, SGPGIMS 2019-2020
- Nodal officer for information committee of disseminating medical information in the state during the covid pandemic 2020
- Nodal officer, Committee for starting for eOPDs and ECCS in SGPGIMS and the state 2020.
- Member, Enquiry Committee against faculty, SGPGI 2020
- Member, Board of Studies for DM in Pain Management, Department of Anesthesia, SGPGIMS, Lucknow, 12th November 2020
- Member, Board of Studies for DM in Transplant Anesthesia, Department of Anesthesia, SGPGIMS, Lucknow, 12th November 2020
- Member, Board of Studies for DM in Neuroradiology, Department of Radiology, SGPGIMS, Lucknow, 19th October 2020
- Member, Institute Committtee for UP State Organ and Tissue Transplant Organisation, SGPGIMS, Lucknow, 2020
- Member, Board of Studies for establishment of post-doctoral fellowship in Vascular Neurosurgery, AIIMS, Patna, 30th October 2020
- Member, Board of Studies for establishment of post-doctoral fellowship in Minimally invasive spine techniques, AIIMS, Patna, 30th October 2020

- Expert to set up qualifications of Faculty at AIIMS, Jodhpur by Government of Uttar Pradesh, 12th December 2020
- Judge, SGPGIMS poster competition (Surgery), First Research Day, Foundation Day Activities, SGPGIMS, Lucknow 13th December 2020
- Have supported a state-level program for prevention of childhood speech and hearing impairment and a cochlear transplant program as head of the Neurotology unit of the institute ongoing for last 5 years.
- Member, Committee for establishment of “The Golden Hour” protocols of the institute in collaboration with other institutes of Lucknow

Dr. Awadhesh Kumar Jaiswal

- Speaker in The 3rd Annual conference of Neurosurgery department - children’s cancer hospital, Cairo, Egypt and 1st Annual conference of African Pediatric Neuro-oncology Society (APNOS), Children’s Cancer Hospital, Cairo, Egypt, 20-22, February 2020
- Speaker in Neurosurgical Anatomy Webinar on 29th August 2020 on Endoscopic approaches to orbit under aegis of Neurological Society of India
- Speaker in Monthly Webinar series-IV on 22th November 2020 on Endoscopic surgery for lateral ventricular tumors under aegis of Neuroendoscopy Society of India

Dr A.K. Srivastava

- Invited faculty for INDSPCON-Kolkata (Feb-2020)
- 23rd Microneurosurgery workshop-AIIMS-New Delhi (Feb-2020)

Dr Anant Mehrotra

- Won the best “Research paper award” in Additional Professor category, 2020
- Invited faculty in Webinar on Minimally Invasive spine surgery conducted by AIIMS, Patna
- Invited faculty member for Webinar on Epilepsy surgery as speaker, July, 2020
- Best paper award UP-UK NEUROCON, 2020 – third prize to Dr Soumen
- Invited speaker on “Role surgery in intractable epilepsy” at UP-UK NEUROCON, February, 2020
- Chairperson in UP-UK NEUROCON, February 2020
- How to choose among the various minimally invasive fusion techniques for listhesis? CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020
- Conducted workshop CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020
- Expanding role of endoscopic spine surgery. CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020
- Chaired a session. CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020
- Co-edited the book: “Atlas of Neurosurgery: a compendium of 100 neurooncological cases-volumes 1 & 2.
- Member Executive Committee in organizing “2nd Annual Neurosurgery Oration with Surgical Neuro- oncology Update” at SGPGI, 28th Feb to 1st March, 2020.
- Member of Roster committee, SGPGI
- Member of Medical Education Unit, SGPGI

Dr. Amit Keshri

- Elected Honorary Secretary: Neuro-otological and Equilibrimetric Society of India(NES of India) 2020-2022
- President Elect: Association of Otolaryngologist of India, UP Chapter 2020-2021
- Executive Member- Faculty Forum SGPGI,2020-2023
- Invited Faculty , AOICON 2020, Nagpur,
- Invited Faculty, Versatile Veria –Cochlear Implant Workshop 25-27 January 2020
- Invited Faculty, Neuro-equilibrimetric society of India, AIIMS,Patna
- Endoscopic Skull Base Workshop,Nanavati Hospital ,Mumbai
- NES Society Vertigo Webinars, May- July 2020
- All India PG Teaching Webinars, October to November 2020
- Dr Arualalan M resident in unit got prestigious British Academy of Otolaryngology Fellowship 2020
- Elected President: Association of Otolaryngologist of India, UP State Branch

Dr. Kuntal Kanti Das

- Faculty: Online OSCE examination under Neurological Society of India, 1st August 2020
- Invited faculty: 1st virtual Asian Congress of Neurological Surgeons, Chennai, 11-12 Dec, 2020
- Invited Faculty: DNAICON-2020, New Delhi 1st and 2nd Feb, 2020
- Member, Quarantine management committee, SGPGI
- Nodal officer, Neurosurgery, Institute MCI cell
- Co-edited the book: “Atlas of Neurosurgery: a compendium of 100 neurooncological cases- volumes 1 & 2.

Dr. Jayesh Sardhara

- Conducted live webinar on Minimally invasive spine surgery on behalf of NSSA, 4th Jan 2020
- Participate as a national speaker in NSI webinar “surgery for CVJ” – presented talk on vertebral artery anomaly

Dr. Ravi Shankar

- Invited Faculty:NES 2020, 39TH Annual conference of Neuro-Otological and Equilibrium Society of India. AIIMS Patna. 21-23 February 2020.
- Co-edited the book: “Atlas of Neurosurgery: a compendium of 100 neurooncological cases- volumes 1 & 2.

Dr. Kamlesh S Bhaisora

- Co-organized 2nd Chhabra – Jain oration and Neuro- oncology update 2020.
- Co – edited “The Operative Atlas of Neurosurgery” Thieme publications.
- Active member of Quarantine committee during corona pandemic.
- Captain of SGPGI cricket team.

Dr. Pawan K Verma

- Member, Quarantine management committee, SGPGI
- Nodal officer, Neurosurgery, Telemedicine cell.

- Co-edited the book: "The Operative Atlas of Neurosurgery: a compendium of 120 neuro-oncological cases"- Volumes 1 & 2.
- Webinar for awareness on Deep Brain Stimulation (DBS), 22 Dec, 2020.
- "Deep Brain Stimulation: Surgical Aspect" at Brain awareness week, STBMI, SGPGI, Lucknow, 22 Dec, 2020

Dr. Ved P Maurya

- Awarded 'Instructor Potential Certificate' after successfully completing ATLS Instructor Course at KGMU, Lucknow; from 25th January to 26th January 2020.
- Invited faculty: Annual Conference of 26TH UP- UK NEUROCON 2020, LLRM Medical College, Meerut, 22ND- 23RD February 2020.
- Certified with One week online hands- on Training Programme on Advanced Data Analysis using SPSS, organised by Department of Statistics, University of Lucknow; during July 15th 2020 to 21st July 2020.
- Certified with Virtual Course on Clinical Research Methodology (CRM 2020) organised by Tata Memorial Hospital (TMH), Mumbai; during 5th September 2020 to 26th September 2020.
- Co- Editor of Book: The Operative Atlas of Neurosurgery: A Compendium of 120 Neuro-oncological, case-based, surgical approaches. Volume 1 and 2, February-2020.
- Podium Presentation on "Management of Cervical locked facets: a tertiary centre experience" at Annual Conference of 26TH UP- UK NEUROCON 2020, LLRM Medical College, Meerut, 22ND- 23RD February 2020.
- Chaired a session on "role of anti-epileptics in head injury" at Annual Conference of 26TH UP- UK NEUROCON 2020, LLRM Medical College, Meerut, 22ND- 23RD February 2020.
- Member Executive Committee in organizing "2nd Annual Neurosurgery Oration with Surgical Neuro- oncology Update" at SGPGI, 28th Feb to 1st March, 2020.
- Active member in establishment of protocols regarding patient triage and relatives counselling in the triage area (T2 and T3) during establishment of Rajdhani Corona Hospital (RCH), SGPGIMS at the outbreak of COVID- 19 Pandemic.
- Presented Common Grand Round (CGR) on behalf of department of Neurosurgery on 10/10/2020, topic- "Neurotrauma at Apex Trauma Centre, SGPGIMS: a 2- year perspective of over 1000 patients".

Member editorial committee/ Reviewer of Journal

Dr.Sanjay Behari

Editorial board

- Chief Editor, Neurology India since January 2015 (Guided it to its highest impact factor ever in 66 years: Thomson Reuter impact factor 2.708)
- Member Editorial Board, Neurology India December 2004-2010, Associate Editor, Neurology India 2010-2013, Co-editor: 2014
- Member Editorial Board and Editor "Spine Section", Indian Journal of Pediatric Neurosurgery.
- Member Editorial Board, Acta Neurochirurgica
- Member, Editorial Board, Journal of Craniovertebral Junction and Spine since 2009
- Member, Editorial Board, International Journal of Neurology and Neurosurgery

- Member, Editorial Board, The Indian Journal of Neurotrauma
- Member, Editorial Board, Indian Journal of Pediatric Neuroscience
- Founding member, Editorial Board, Current Practice in Neurosciences, Neurological Society of India 2019
- Founding member, Video submission platform, Neurological Society of India 2019
- Reviewer
- Indian Journal of Surgery
- Neurology India.
- Medical Science Monitor
- National Medical Journal of India.
- Journal of College of Physicians and Surgeons, Pakistan
- Indian Journal of Orthopedics
- Acta Neurochirurgica (European Journal of Neurosurgery)
- Journal of Pediatric Neuroscience
- Member Review Committee for Union International Against Cancer ICRETT fellowships
- Indian Journal for Medical Research
- Cerebellum
- World Journal of Endocrinal Surgery
- Neuroradiology
- Journal of Neurological Sciences
- Indian Journal of Neurotrauma
- Indian Journal of Craniovertebral junction and Spine
- Journal of Otology and Rhinology
- Sultan Qaboos University Medical Journal
- Indian Journal of Neurosurgery
- World Neurosurgery
- Indian Journal of Pediatric Neuroscience
- Neuro-ophthalmology
- PLOS ONE
- Journal of Neurosurgery in Rural Practice
- BioMed Central Journal Surgery

Co-editor of book: The Operative Atlas of Neurosurgery: A compendium of 120 Neuro-oncological, case Based Surgical Approaches, Volume I and II. Thieme Publishers. This has become a Thieme bestseller for 2020

Dr. Awadhesh Kumar Jaiswal

- World neurosurgery
- Neurology India
- Operative Neurosurgery
- Indian Journal of Neurosurgery

Dr. A.K. Srivastava

- World Neurosurgery
- Neurology India
- Frontiers in Neurology
- Child Nervous system
- Journal Cranio-Vertebral Junction and spine
- Journal of Neurosurgery in Rural Practice

Dr. Anant Mehrotra

- The Spine journal
- Asian Journal of Neurosurgery
- Journal of Central nervous system diseases
- International Journal of Surgery and Medicine
- Neurology India
- Journal of clinical neurosciences
- Acta Medica Academia
- Indian Journal of Neurosurgery

Dr Amit Keshri**Editorial Board**

- UP Journal of Association of Otolaryngology Journal
- Reviewer
- Journal of Neurosurgery Part-B, Skull Base
- Neurology India
- Annals of Otolaryngology and Neuro-otology
- ORL-Karger
- Journal of Medical Case Reports
- Future Oncology
- UP Journal of Otolaryngology Head and Neck Surgery
- Indian Journal of
- Otolaryngology online

Dr. Kuntal K Das

- World Neurosurgery
- Frontiers in Neurology
- Frontiers in Oncology
- Nature Reports, Springer

Dr. Jayesh Sardhara

- Journal of Neurosurgery in rural practice
- Neurology India
- Journal of spinal surgery

Dr. Ravi Shankar

- Neurology India
- Otology & Neurotology
- U.P journal of otolaryngology head and neck surgery

Dr. Kamlesh S Bhaisora

- World Neurosurgery
- Neurology India
- Indian journal of neurotrauma

Dr. Pawan K Verma

- Neurology India

Dr Ved P Maurya

- Neurology India
- Indian Journal of Neurotrauma
- Journal of Neurosciences in Rural Practice

Executive of National/ International bodies**Dr. Sanjay Behari**

- President, Uttar Pradesh and Uttarakhand Neuroscience Society 2019-2020
- Life member of Neurological Society of India since 1996
- Life member of Association of Spinal Surgeons of India since 1998
- Life member of the Asian Congress of Neurological Surgeons since 1998
- International member of the Congress of Neurological Surgeons, USA since 2000
- Life member of Association of Fellows of the Union International against Cancer (UICC), Geneva Switzerland since 2001
- Life Member of Neurosciences Society of Uttar Pradesh, India since 2003.
- International Member of the American Association of Neurological Surgeons, USA since 2003.
- Associate Member of the Association of British Scholars (ABS) since 2003
- Alumni, Commonwealth Scholars and Fellows since 2004
- Member, National Academy of Sciences, India since 2004
- Member, National Academy of Medical Sciences since 2005
- Member, AO Spine International since 2007
- Member, Indian Society for Pediatric Neurosurgery since 2008
- Member, Indian Society for Skull Base Surgery since 2008
- Member, Indian Society of Neurooncology since 2010
- Member, Neurotrauma Society of India since 2010

Dr A.K. Srivastava

- Treasurer UPUK-Neuroscience society

Dr Anant Mehrotra

- Life member of Neurological Society of India
- Life member of Neurosurgical Society of India
- Life member of Skull Base society of India
- Life member of MISSAB
- Life member of UPUK-Neuroscience society

Dr KuntalKanti Das

- Internal member of AANS

Dr Amit Keshri

- Elected Honorary Secretary: Neuro-otological and Equilibrimetric Society of India (NES of India) 2020-2022
- Elected President: Association of Otolaryngologist of India, UP State Branch
- Elected Executive: Faculty forum of SGPGIMS, Lucknow
- Life Member: Association of Otolaryngologist of India
- Life Member: Indian Society of Otology
- Member: American Academy of Otolaryngology and Head and Neck Surgery

Dr Ravi Shankar

- Life member: The Association of Otolaryngologists of India.
- Life member: Indian society of Otology
- Life member: Neuro-otological and Equilibrium Society of India.
- Life member: Skull Base Surgery Society of India.
- Active member: American Academy of Otolaryngology-Head and Neck Surgery.
- Active member: American Neurotology society.
- Active member: ENT UK
- Active member: British society of Otology
- Active member: British society of Head and Neck
- Member: The Skull Base Congress (University of Pittsburgh)

Dr Ved P Maurya

- Life Member- Neurology India
- Life Member- Indian Society of Pediatric Neurosurgery
- Life Member- Skull Base Surgery Society of India
- Member- American Association of Neurological Surgeons (AANS)

Publications

1. Arulalan M, Ravisankar M, Amit KK, Rajat J, Surendra SB, Neha S, Govind B, Saima A. Head and neck vascular anomalies- Our clinical experience and literature review. UP State J Otol Head and Neck surgery 2020. Accepted.
2. Arulalan M, Suyash S, Awadhesh KJ, Ravisankar M, Prabhakar M, Amit KK. Is the tradition of nasal packing just an illusion of permanence or a necessary evil? Indian J Neurosurg 2020. Accepted.

3. Attri GS, Gosal JS, Khatri D, Das KK, Bhaisora KS, Mehrotra A, Sardhara J, Srivastava AK, Behari S, Jaiswal S, Jaiswal AK. Endoscopic Third Ventriculostomy and Simultaneous Tumor Biopsy in Pineal Region Tumors using the "Single Burr Hole" Technique: An Analysis of 34 Cases. *Asian J Neurosurg* 2020; 15: 976-982
4. Bhaisora KS, Das KK, Singh S, Srivastava AK. Letter to the Editor. Significance of morphology and site of origin in surgical outcome of ruptured ACoA aneurysm. *J Neurosurg.* 2020 Aug 7:1-2. doi: 10.3171/2020.5.JNS201822.
5. Das KK, Attri G, Singh S, Bhaisora KS, Verma P, Jaiswal S, Jaiswal A, Behari S. Intracranial Extramedullary NonconusNonfilum Spinal Ependymomas: Report of a Rare Variant and Newer Insights into Their Histogenesis with Proposal of a Classification Scheme and a Management Algorithm Based on a Review of Literature. *World Neurosurg.* 2020 Feb;134:323-336. doi: 10.1016/j.wneu.2019.10.152. Epub 2019 Nov 1. PMID: 31682991.
6. Das KK, Honna RM, Attri G, et al. A Single-Center Surgical Experience of Interhemispheric Epidermoids and Proposal of a New Radiological Classification [published online ahead of print, 2020 Jun 6]. *World Neurosurg.* 2020;S1878-8750(20)31232-8. doi:10.1016/j.wneu.2020.05.259
7. Das KK, Kumar A, Gosal JS, Jaiswal AK, Behari S. 'Trigeminal neuralgia from an arteriovenous malformation of the trigeminal root entry zone with a flow related feeding artery aneurysm: The role of a combined endovascular and "tailored" surgical treatment' -accepted at Neurology India
8. Das KK, Singh S, Bhaisora KS, Jaiswal AK, Behari S. Letter: Utility of the Hijdra Sum Score in Predicting Risk of Aneurysm in Patients With Subarachnoid Hemorrhage: A Single-Center Experience With 550 Patients. *Neurosurgery.* 2020 Jul 31:nyaa341. doi: 10.1093/neuros/nyaa341. Epub ahead of print. PMID: 32735662.
9. Deora H, Singh S, Sardhara J, Behari S. A 360-Degree Surgical Approach for Correction of Cervical Kyphosis and Atlantoaxial Dislocation in the Case of Larsen Syndrome. *J Neurosci Rural Pract.* 2020 Jan;11(1):196-201. doi: 10.1055/s-0039-3402624. Epub 2020 Mar 3. PMID: 32140028; PMCID: PMC7055606.
10. Gautam AD, Jain S, Ravi Sankar M, Jain N. Primary synovial sarcoma of parotid gland with intravenous extension into the heart. *BMR Case Rep* 2020; 6: 20200080.
11. Gosal JS, Das KK, Khatri D, Jaiswal A, Behari S. Letter to the Editor Regarding 'Surgical Treatment of Secondary Trigeminal Neuralgia Induced by Cerebellopontine Angle Tumors: A Single-Center Experience'. *World Neurosurg.* 2020 Oct;142:548-549.
12. Gosal JS, Garg M, Tiwari S, Das KK, Jha DK. White epidermoid: an important radiological mimic of the dermoid. *Childs Nerv Syst.* 2020. doi: 10.1007/s00381-020-04883-1.
13. Gosal JS, Khatri D, Das KK, Bhaisora KS, Behari S Letter; decision tree model in poor grade subarachnoid hemorrhage (Neurosurgery, accepted).
14. Gosal JS, Khatri D, Das KK, Bhaisora KS, Srivastava AK, Gupta A. Letter to the Editor Regarding "Intra- and Extramedullary Dumbbell-Shaped Schwannoma of the Medulla Oblongata: A Case Report and Review of the Literature". *World Neurosurg.* 2020;135:399-400.
15. Gosal JS, Khatri D, Panda S, Bhaskar S, Das KK. Letter to the Editor: 'The Laughing Disease'- From Kuru to the Joker's Sinister Laugh and Madness. *World Neurosurg.* 2020 Aug;140:453-454.
16. Govind B, Ravi Sankar M, Amit K, Anant M, Neha S, Arulalan M. Surgical Candidacy in Skull Base Paragangliomas: An Institutional experience. *Neurosci Rural Pract*:2020; Accepted.
17. Jain R, Amit Keshri, Behari S, Arulalan M. -Surgery of Jugulare foramen lesions- An Institutional

- Experience; August 2020:upjohnd/volume-8, April2020, special edition,pg1-9/ISSN No.- 2321-3450
18. Khatri D, Das KK, Gosal JS, Attri G, Singh A, Bhaisora KS, Mehrotra A, Sardhara J, Verma PK, Srivastava AK, Jaiswal AK, Behari S. Surgery in High-Grade Insular Tumors: Oncological and Seizure Outcomes from 41 Consecutive Patients. *Asian J Neurosurg*. 2020 Aug 28;15(3):537-544.
 19. Khatri D, Gosal JS, Das KK, Bhaisora K, Srivastava AK. Letter to the Editor. Extradural posterior odontoidectomy. *JNeurosurgPediatr*. 2020;7:1-2.
 20. Khatri D, Gosal JS, Das KK, Sardhara J, Srivastava AK, Behari S. Letter: Three-Dimensional Evaluation and Classification of the Anatomy Variations of Vertebral Artery at the Craniovertebral Junction in 120 Patients of Basilar Invagination and Atlas Occipitalization. *OperNeurosurg (Hagerstown)*. 2020;19(1):E95-E96.
 21. Kumar A, Singh S, Dikshit P, Das KK, Srivastava AK. Occipital condyle syndrome in a case of rotatory atlantoaxial subluxation (type II) with craniovertebral junction tuberculosis: Should we operate on "active tuberculosis?" *J Craniovertebr Junction Spine*. 2020 Apr-Jun;11(2):143-147. doi: 10.4103/jcvjs.JCVJS_30_20. Epub 2020 Jun 5. PMID: 32904901; PMCID: PMC7462130.
 22. Mahalakshmi VD, Mayilvaganan S, Ravisankar M, Mathialagan A, Yadav RR, Mishra P, et al. Surgeon-performed analysis of the status of the vocal cords of post-thyroidectomy patients with intraoperative Neuromonitoring in a tertiary referral center. *Int J Mol Immuno Oncol* 2020;5(3):121-6.
 23. Manogaran R, Kumar R, Mathialagan A, Mehrotra A, Keshri A, Singh N, Bhuskute G, Singh S. Revising the Indications of Transtemporal Surgical Approaches in the Modern Endoscopic Era of Skull Base Surgery: A Dying Art. *J NeurolSurg B Skull Base* 2020. Accepted.
 24. Maurya VP, Elangovan D, Mourougayan V, Ranjini M. Severe Spinal Infection after Vertebral Fracture Stabilization: A Narrow Escape. *Indian J Neurotrauma* 2020;17:139-42.
 25. Mehrotra A, Singh S, Kanjilal S, Kumar A, Pal L, Mathur V, Paliwal VK, Sardhara J, Bhaisora KS, Srivastava AK, Jaiswal AK, Behari S. Long-Term Epilepsy-Associated Tumors (LEATs): A Single-Center, Retrospective Series and Review of Literature on Factors Affecting the Seizure Outcome. *World Neurosurg*. 2020 Dec;144:e149-e155. doi: 10.1016/j.wneu.2020.08.036. Epub 2020 Aug 10. PMID: 32791221.
 26. Mehrotra A, Singh S, Kanjilal S, Pal L, Paliwal VK, Sardhara J, Behari S. Seizure-Outcome after surgery of Low-grade epilepsy associated neuro-epithelial tumors. *J Neuro Sc.* (accepted) 2020
 27. Mehrotra A, Singh S, Kanjilal S, Pal L, Paliwal VK, Sardhara J, Verma PK, Maurya VP, Bhaisora KS, Das KK, Srivastava AK, Jaiswal AK, Behari S. Factors affecting seizure outcome in Long-term epilepsy associated tumors (LEATs) in children and young adolescents. *Clin NeurolNeurosurg*. 2020 Oct;197:106104. doi: 10.1016/j.clineuro.2020.106104. Epub 2020 Jul 23. PMID: 32738652.
 28. Mehrotra A, Singh S, Kanjilal S, Pal L, et al. Resistant temporal lobe epilepsy: initial steps into a bigger epilepsy surgery program. *Journal of Neurosciences in Rural Practice*. 2020; ahead of print
 29. Nangarwal B, Singh S, Srivastava AK, et al. How important is to know the psycho-social performance in an operated child of meningioma? Devil is in the details. *J PediatrNeurosci* 2020; ahead of print
 30. Pawan K. Verma, Bhawan Nangarwal, Jyoti Verma and Awadhesh K. Jaiswal et al. A clinico-pathological and neuro-radiological study of angiomatous meningioma: Aggressive look with benign behaviour. *Journal of Clinical Neuroscience*; Article in press

31. Rangari K, Das KK, Singh S, Sardhara J, Bhaisora K, Mehrotra A, Behari S Chiari malformations without atlanto-axial instability: assessment of the outcomes after surgical treatment (Accepted in Neurospine)
32. Ravi Sankar M, Ankur M, Govind B, Arulalan M. Head and neck tumors in children: experience from a tertiary care referral institute in India. J Indian Assoc pediatrSurg 2020; Accepted.
33. Ravi Sankar M, Arulalan M, Amit KK, Sabaratnam M. Chondroma of Hyoid Bone Presenting as a Parapharyngeal Mass- A Case Report with Review of Literature. A Case report. J Postgrad Med Edu Res 2020. Accepted .
34. Ravi Sankar M, Arulalan M, Vivek S, Prabhakar Mishra, Rajat J, Amit K. Role of trans-arterial angiography with embolization in deciding surgical approach to Juvenile nasopharyngeal angiofibroma. JNeurolSurg B Skull Base 2020. Accepted.
35. Ravi Sankar M, Saima A, Pearly PK, Amit K, Neha S, Govind B, Arulalan M, Rajat J, Surendra SB, Behari S. Otogenic Brain abscess management strategy: an institutional experience. UP State J Otol Head and Neck surgery 2020. Accepted .
36. Sardhara J, Behari S, Singh S, Srivastava AK, Chauhan G, Lal H, Das KK, et al. A universal craniometric index for establishing the diagnosis of basilar invagination. Neurospine (accepted) 2020
37. Sardhara J, Singh S, Srivastava AK, Behari S. Anomalous cranio-vertebral junction (CVJ) anomalies in pediatric population: Impact of digital three-dimensional animated models in enhancing the surgical decision-making. Journal of Pediatric Neuroscines.2020. (ahead of print). JPN_54_20
38. Sardhara J, Srivastava AK, Pandey SD, Amit Keshri, Mehrotra A, Das KK, Bhaishora K, Jaiswal A, Behari S. Postoperative Tinnitus after Vestibular Schwannoma Surgery: A Neglected Entity; Neurol India. 2020 Mar-Apr;68(2):333-339
39. Sharma A, Srivastava AK, Singh S, Das KK, Mishra P, Bhaisora K, Sardhara J, Mehrotra A, Jaiswal AK, Behari S. Does socio-economic status have an association with cranio-vertebral anomalies: A step towards healing the curse! J PediatrNeurosci 2020 (accepted and ahead of Print)
40. Singh A, Das KK, Khattri D, Singh S, Jaiswal S, Misra P, et al. Insular Glioblastoma: Survival Outcomes and Prognostic Factor. British Journal of Neurosurgery (accepted) 2020.
41. Singh A, Singh S, Agrawal S, Verma J, Singh S, Misra P, Jaiswal AK, Behari S, Jaiswal S. A single-centre observational study of 124 surgically managed glioma patients: molecular subtyping and its correlation with clinico-radiological profile. Int Surg J. 2020;7:3047-55.
42. Singh S, Das KK, Deora H, Jaiswal AK, Behari S. Traumatic Partial Posterior Cord Brachial Plexus Injury in a Patient with Aberrant Innervation of the Long Head of the Triceps by the Axillary Nerve: Implications in Nerve Transfer Surgery. Asian J Neurosurg. 2020 May 29;15(2):391-393. doi: 10.4103/ajns.AJNS_160_19. PMID: 32656138; PMCID: PMC7335135.
43. Singh S, Das KK, Kumar KG, Rangari K, Dikshit P, Bhaisora K, Sardhara J, Mehrotra A, Srivastava AK, Jaiswal AK, Behari S. Cerebellopontine angle epidermoids: comparative results of microscopic and endoscopic excision using the retromastoid approach. J NeurolSurg SB - Part B (Ahead of print) 2020
44. Singh S, Mehrotra A, Kanjilal S, Paliwal VK. Letter: Effect of seizure timing on long-term survival in patients with brain tumor. Epilepsy Behav. 2020. <https://doi.org/10.1016/j.yebeh.2020.107566>.

45. Singh S, Mehrotra A, Manogaran R, Behari S. Letter: A Novel Classification and Its Clinical Significance in Spinal Schwannoma Based on the Membranous Hierarchy. *Neurosurgery*: 2020; Accepted.
46. Singh S, Mehrotra A, Sardhara J, Behari S. Letter: A Comparison of Minimally Invasive and Open Transforaminal Lumbar Interbody Fusion for Grade 1 Degenerative Lumbar Spondylolisthesis: An Analysis of the Prospective Quality Outcomes Database. *Neurosurgery*. 2020 Aug 19;nyaa371. doi: 10.1093/neuros/nyaa371. Epub ahead of print. PMID: 32814944.
47. Singh S, Mehrotra A, Shankar R, Arulalan M, Das KK, Jaiswal AK, Behari S. Revisiting the surgical corridors for cervical Type IIb-c dumbbell neurofibroma: A series of two unconventional approaches and review of literature. *J Craniovertebr Junction Spine*. 2020 Apr-Jun;11(2):111-117. doi: 10.4103/jcvjs.JCVJS_105_19. Epub 2020 Jun 5. PMID: 32904966; PMCID: PMC7462129.
48. Singh S, Mehrotra A, Sankar RM, Behari S. Letter: A Novel Classification and Its Clinical Significance in Spinal Schwannoma Based on the Membranous Hierarchy. *Neurosurgery* 2020; ahead of print. NEU-D-20-01678
49. Singh S, Sardhara J, Mehrotra A, Behari S. Letter to the Editor. Patient satisfaction after minimally invasive spine surgery. *Neurosurg Focus*. 2020 Aug;49(2):E17. doi: 10.3171/2020.5.FOCUS20416. PMID: 32738798.
50. Singh S, Sardhara J, Raiyani V, Saxena D, Kumar A, Bhaisora KS, Das KK, Mehrotra A, Srivastava AK, Behari S. Craniovertebral junction instability in Larsen syndrome: An institutional series and review of literature. *J Craniovert Jun Spine* 2020;11:276-86
51. Singh S, Sardhara J, Raiyani V, Srivastava AK, Behari S. Lessons learnt from surgical management of craniovertebral instability in Morquio syndrome: a series of four unusual cases. *J Craniovertebr Junction Spine*. 2020. Ahead of print
52. Singh S, Srivastava AK, Baranwal AK, Bhatnagar A, Das KK, Jaiswal S, Behari S. Efficacy Of Silicone Conduit In The Rat Sciatic Nerve Repair Model: Journey Of A Thousand Miles. *Neurol India* (accepted; 2020)
53. Singh S, Srivastava AK, Gajbhiye S, Bhaisora KS, Jaiswal AK, Behari S. Venous corridors in gravity-assisted retractor-less occipito-translaminar approach - Our experience of an avenue through the tentacles of pod. *SurgNeurol Int*. 2020 Nov 18;11:399. doi: 10.25259/SNI_425_2020. PMID: 33282459; PMCID: PMC7710477.
54. Singh S, Srivastava AK, Sardhara J, Behari S. Trans-oral Odontoidectomy for pediatric craniovertebral junction anomaly: Is it redundant now? *Journal of Pediatric Neurosciences*. 2020. (ahead of print). JPN_36_20.
55. Singh S, Srivastava AK, Sardhara J, Bhaisora KS, Das KK, Mehrotra A, Jaiswal AK, Panigrahi MK, Behari S. A Prospective, Single-Blinded, Bicentric Study and Literature Review to Assess the Need of C2-Ganglion Preservation - SAVIOUR's Criteria. *Neurospine*. 2020 Nov 17. doi: 10.14245/ns.2040238.119. Epub ahead of print. PMID: 33211949.
56. Singhal P, Nagaraj S, Verma N, Goyal A, Amit Keshri, Kapila RK, Agarwal S, Sharma MP. -Modified Veria Technique for Cochlear Implantation by Postaural Approach; *Indian J Otolaryngol Head Neck Surg*. 2020 Sep;72(3):370-374
57. Srivastava A, Mathialagan A, Manogaran RS, Prabhakar M, Archana R. Comparative Craniometrics Study of The Lateral Skull Base In An Adult And Pediatric Population. *J Postgrad Med Edu Res* 2020. 1-7. (Accepted and ahead of print).
58. Srivastava AK, Singh S, Khatri D, Jaiswal AK, Sankar R, Paliwal VK, Neyaz Z, Sharma K, Behari S. Endoscopic Endonasal Optic Nerve Decompression with Durotomy: Pis Aller in the Mind of a Blind. *Neurol India*. 2020 Jan-Feb;68(1):54-60. doi: 10.4103/0028-3886.279701. PMID: 32129244

59. Tiwari P, Kumar S, Mishra P, Mohindra M Jain R, Gupta A, Amit Keshri -Role of High-Resolution CT and MRI in Predicting the Degree of Difficulty in Patients undergoing Cochlear Implant Surgery: An Institutional Experience ;August 2020:Annals of Otology and Neurotology DOI: 10.1055/s-0040-1715552

Book Chapters

1. Kumar A, Singh S, Dixit P, Attri G, Singh Y, Singh A, Zambre S, Verma PK, Jaiswal AK. Minimally Invasive Keyhole Endoscopic Approach for Excision of an Intraventricular Central Neurocytoma Presenting with Intratumoral Bleed in The Operative Atlas of Neurosurgery
2. Jaiswal AK, Keshri A, Singh S, Attri GS, Dwivedi V, Singh P. Endoscopic Endonasal Transethmoidal Approach for Excision of a Right Orbital Intraconal Cavernous Hemangioma in The Operative Atlas of Neurosurgery
3. Mehrotra A, Dikshit P, Rangari K, Das SK, Jaiswal AK. Endoscopic Interlaminar approach for hypertrophied/ossified ligamentum flavum and extradural arachnoid cyst in the thoracic spine. Neuroendoscopic surgery: A comprehensive approach
4. Mehrotra A, Kumar S, Verma PK, Das KK, Jaiswal AK. Endoscopic Interlaminar approach for tethered cord syndrome. Neuroendoscopic surgery: A comprehensive approach

Conference presentation

Dr. Sanjay Behari

- National Lectures at Sudanese Neurosurgical Society at Khartoum, Sudan on “Atlantoaxial dislocation: Some lesser known facts.” 9th to 12th February 2020
- National Lectures at Sudanese Neurosurgical Society at Khartoum, Sudan on “Advances in skull base surgery” 9th to 12th February 2020
- Cadaveric dissection of cavernous sinus triangles at 18th Instructional Course and 10th Foundation Course of Neurological Society of India, Kasturba Hospital, Manipal Institute of Medical Sciences, 14th and 15th February 2020
- Lumbar spine. Case demonstration. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Hands-on dorsal spine surgery/ Dorsal pedicle screw fixation. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Hands on cervical spine surgery: ACDF, lateral mass fixation, pedicle screw fixation, AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- C1-2 fixation techniques. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Hands on C1-2 transarticular fixations, C0-C2 fixations, odontoid screw fixation. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Case demonstration of craniocervical junction. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Adjacent segment disease. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Revision surgery in cervical fixation. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- “Anatomy of subaxial cervical spine surgery: Anterior and posterior approaches.” AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020

- Brain stem death: Concepts and diagnosis. Lecture at 11th Organ Donation Day, Awareness Program and Public Forum, The Fundamentals of Organ Donation, Organised by UP State Organ and Tissue Donation and Department of Hospital Administration, SGPGIMS, Lucknow 27th November 2020.
- Speaker for Webinar on “Surgery for brain stem hemangioblastomas.” Care Hospitals, Hyderabad, Telangana, 20th April 2020
- Case based discussion on cervical spondylotic myelopathy. April 22, 2020. Resident presentation, Care Hospitals, Hyderabad, Telangana
- Case based discussion on low grade frontal glioma at the motor strip. April 2020, Resident presentation, Care Hospitals, Hyderabad, Telangana
- Speaker : Forty year old man presented with hoarseness of voice. Approach to diagnosis. Problem oriented clinical neurosurgery. Digital foundation course. Neurological Society of India May 31st 2020, 9am to 1pm.
- Speaker for the First Superspecialty CME webinar of Neurological Society of India and Congress of Neurological Surgeons, USA on Cerebrovascular Neurosurgery. Topic: Controversies in managing paraclinoid segment aneurysms. 8th September 2020
- Panelist for the webinar on “Management of various intracranial meningiomas.” Under the aegis of Fortis Escort Hospital, Jaipur. 13th August 2020
- Speaker for webinar “Understanding and managing intraventricular tumors”. Topic: Surgery for posterior third ventricular tumors. Under the aegis of Institute of Neurosciences and Spine, MGM Health Care, Chennai, September 10th, 2020
- Moderator for the webinar “Vascular Complications in Neurosurgery (Avoidance / Management) under the aegis of World Federation of Neurosurgical Societies, Neurosurgical complication Avoidance Subcommittee, 28th August 2020
- Moderator for the Neurosurgical Anatomy Webinar of Neurological Society of India “Surgical approaches to the middle cranial fossa.” August 1st, 2020
- Presenter for Neurosurgical Anatomy Webinar of Neurological Society of India “Surgical approaches to the orbit.” August 29th, 2020
- Panelist for webinar on ‘pediatric craniopharyngioma’ and ‘intramedullary tumor excision under neuro-monitoring’ under the aegis of Indian Society of Pediatric Neurosurgery and Park clinic Kolkata, 22nd September 2020
- Moderator in the webinar on ‘Transformation of idea to a saleable product and the role of patenting’ with IIT Kanpur, 26th October, 2020
- Webinar on “Ethics in service”, under the aegis of Neurological Society of India, 7th November 2020
- Panelist for webinar on “Clinical Assessment and Surgery for cerebellopontine angle tumors.”, Interactive Webinar with Neurosurgical Residents. Neurosurgical TV. 5th December, 2020
- Speaker for 01 foundation course for residents 2020: Tele-health and tele-consult: The future of healthcare and the medicolegal issues. 30th November 2020
- Speaker: Brain: Mysteries and explorations. Mortal’s Well-Being Trust, La Martiniere College, Lucknow, 13th September 2020
- Speaker: Falctentorial and velum interpositummeningiomas at webinar on Educational CME on cranial and spinal disorders, Grant Medical College and Sir JJ Group of Hospitals, in association with LTMMC College and Sion Group of Hospitals. 5th December 2020, 3.50-4.10pm.

- Chairman, Case presentation on “cerebellopontine angle tumors” Resident TV 2020, 5th and 6th December 2020, 6 pm onwards
- Moderator of webinar on “Surgery for arteriovenous malformations” under the aegis of Virtual Asian Congress of Neurological Surgeons, 12th December, 2020. 1pm to 2pm session.
- Speaker at Telangana Neuroscience Society, Neurosurgery section: Surgery of paraclinoid segment aneurysms. 26th December 2020
- Speaker at Asian Congress of Neurological Surgeons, Japan: Management of craniocervical junction tuberculosis. 30th December 2020
- National Lectures at Sudanese Neurosurgical Society at Khartoum, Sudan on “Atlantoaxial dislocation: Some lesser known facts.” 9th to 12th February 2020
- National Lectures at Sudanese Neurosurgical Society at Khartoum, Sudan on “Advances in skull base surgery” 9th to 12th February 2020
- Cadaveric dissection of cavernous sinus triangles at 18th Instructional Course and 10th Foundation Course of Neurological Society of India, Kasturba Hospital, Manipal Institute of Medical Sciences, 14th and 15th February 2020
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- C1-2 fixation techniques. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Hands on C1-2 transarticular fixations, C0-C2 fixations, odontoid screw fixation. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Case demonstration of craniocervical junction. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Adjacent segment disease. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Revision surgery in cervical fixation. AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- “Anatomy of subaxial cervical spine surgery: Anterior and posterior approaches.” AO Spine Principles Course, Dhaka, Bangladesh 28th and 29th September 2020
- Brain stem death: Concepts and diagnosis. Lecture at 11th Organ Donation Day, Awareness Program and Public Forum, The Fundamentals of Organ Donation, Organised by UP State Organ and Tissue Donation and Department of Hospital Administration, SGPGIMS, Lucknow 27th November 2020
- Speaker for Webinar on “Surgery for brain stem hemangioblastomas.” Care Hospitals, Hyderabad, Telangana, 20th April 2020
- Case based discussion on cervical spondylotic myelopathy. April 22, 2020. Resident presentation, Care Hospitals, Hyderabad, Telangana
- Case based discussion on low grade frontal glioma at the motor strip. April 2020, Resident presentation, Care Hospitals, Hyderabad, Telangana

- Speaker : Forty year old man presented with hoarseness of voice. Approach to diagnosis. Problem oriented clinical neurosurgery. Digital foundation course. Neurological Society of India May 31st 2020, 9am to 1pm.
- Speaker for the First Superspecialty CME webinar of Neurological Society of India and Congress of Neurological Surgeons, USA on Cerebrovascular Neurosurgery. Topic: Controversies in managing paraclinoid segment aneurysms. 8th September 2020
- Panelist for the webinar on "Management of various intracranial meningiomas." Under the aegis of Fortis Escort Hospital, Jaipur. 13th August 2020
- Speaker for webinar "Understanding and managing intraventricular tumors". Topic: Surgery for posterior third ventricular tumors. Under the aegis of Institute of Neurosciences and Spine, MGM Health Care, Chennai, September 10th, 2020
- Moderator for the webinar "Vascular Complications in Neurosurgery (Avoidance / Management) under the aegis of World Federation of Neurosurgical Societies, Neurosurgical complication Avoidance Subcommittee, 28th August 2020
- Moderator for the Neurosurgical Anatomy Webinar of Neurological Society of India "Surgical approaches to the middle cranial fossa." August 1st, 2020
- Presenter for Neurosurgical Anatomy Webinar of Neurological Society of India "Surgical approaches to the orbit." August 29th, 2020
- Panelist for webinar on 'pediatric craniopharyngioma' and 'intramedullary tumor excision under neuro-monitoring' under the aegis of Indian Society of Pediatric Neurosurgery and Park clinic Kolkata, 22nd September 2020
- Moderator in the webinar on 'Transformation of idea to a saleable product and the role of patenting' with IIT Kanpur, 26th October, 2020
- Webinar on "Ethics in service", under the aegis of Neurological Society of India, 7th November 2020
- Panelist for webinar on "Clinical Assessment and Surgery for cerebellopontine angle tumors.", Interactive Webinar with Neurosurgical Residents. Neurosurgical TV. 5th December, 2020
- Speaker for 01 foundation course for residents 2020: Tele-health and tele-consult: The future of healthcare and the medicolegal issues. 30th November 2020
- Speaker: Brain: Mysteries and explorations. Mortal's Well-Being Trust, La Martiniere College, Lucknow, 13th September 2020
- Speaker: Falcotentorial and velum interpositummeningiomas at webinar on Educational CME on cranial and spinal disorders, Grant Medical College and Sir JJ Group of Hospitals, in association with LTMMC College and Sion Group of Hospitals. 5th December 2020, 3.50-4.10pm.
- Chairman, Case presentation on "cerebellopontine angle tumors" Resident TV 2020, 5th and 6th December 2020, 6 pm onwards
- Moderator of webinar on "Surgery for arteriovenous malformations" under the aegis of Virtual Asian Congress of Neurological Surgeons, 12th December, 2020. 1pm to 2pm session.
- Speaker at Telangana Neuroscience Society, Neurosurgery section: Surgery of paraclinoid segment aneurysms. 26th December 2020
- Speaker at Asian Congress of Neurological Surgeons, Japan: Management of craniocervical junction tuberculosis. 30th December 2020
- MCh Faculty selection, Neurosurgery and Neurootology, SGPGIMS, Lucknow, 18th Feb 2014, 21st June 2014, 6th June 2018, 8th August 2019, 10th December 2020

Dr. Awadhesh Kumar Jaiswal

- Endonasal endoscopic surgery for orbital tumors in pediatric patients in The 3rd Annual conference of Neurosurgery department - children's cancer hospital, Cairo, Egypt and 1st Annual conference of African Pediatric Neuro-oncology Society (APNOS), Children's Cancer Hospital, Cairo, Egypt, 20-22, February 2020
- Keyhole endoscopic surgery for ventricular tumors in pediatric population in The 3rd Annual conference of Neurosurgery department - children's cancer hospital, Cairo, Egypt and 1st Annual conference of African Pediatric Neuro-oncology Society (APNOS), Children's Cancer Hospital, Cairo, Egypt, 20-22, February 2020
- Endoscopic approaches to orbit in Neurosurgical Anatomy Webinar on 29th August 2020 under aegis of Neurological Society of India
- Endoscopic surgery for lateral ventricular tumors in Monthly Webinar series-IV on 22th November 2020 on under aegis of Neuroendoscopy Society of India

Dr. A.K. Srivastava

- Debate, INDSPCON 2020-Kolkata
- TOD/Kolkata Kanpur, INDSPCON 2020-Kolkata
- AIIMS/Video presentation, AIIMS, 2020
- Case presentation/NSI course, NSI-CNS course-Dec-2020

Dr. Anant Mehrotra

- Invited faculty in Webinar on Minimally Invasive spine surgery conducted by AIIMS, Patna
- Invited faculty member for Webinar on Epilepsy surgery as speaker, July, 2020
- Best paper award UP-UK NEUROCON, 2020 – third prize to Dr Soumen
- Invited speaker on "Role surgery in intractable epilepsy" at UP-UK NEUROCON, February, 2020
- Chairperson in UP-UK NEUROCON, February 2020
- How to choose among the various minimally invasive fusion techniques for listhesis? CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020
- Conducted workshop CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020
- Expanding role of endoscopic spine surgery. CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020
- Chaired a session. CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020

Dr. Amit Keshri

- AOICON 2020, Does Vascularity help in choosing surgical approach of JNA?
- NESCON 2018, Patna Alternative treatment in Glomus Jugular, Adult Cochlear Implant
- Versatile veria 2020, Cochlear Implant in Ossified and Malformed Cochlea

Dr. Kuntal K Das

- "Surgery for insular gliomas:" at 1st virtual Asian Congress of Neurological Surgeons, Chennai, 11-12 Dec, 2020

- “Microsurgical excision of giant insular cavernoma: how I do it?” at DNAICON-2020, New Delhi 1st and 2nd Feb, 2020

Dr. Jayesh Sardhara

- Developmental anatomy of CVJ: 3D perspective: Conference of Indian pediatric Neurosurgical society, 6-8 Feb 2020
- Minimally invasive oblique lumbar interbody fusion: technical pearls. 2nd CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020
- Endoscopic lumbar inter-body fusion (ELIF): How I do it? 2nd CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020
- Cadaveric workshop for interlaminar and transforaminal endoscopic discectomy. 2nd CEMIBSS spine course & Cadaveric Workshop, Chandigarh, 7th-8th March 2020

Dr. Ravi Shankar

- Infratemporal Fossa Approaches- NES 2020, 39TH Annual conference of Neuro-Otological and Equilibrium Society of India. AIIMS Patna. 21-23 February 2020.

Dr. Kamlesh S Bhisora

- Surgery for paraclinoid aneurysms, DNAICON 2020, Annual conference of Delhi Neurological Association.

Dr. Pawan K Verma

- Excision of Intracranial Epidermoids Using A Keyhole Endoscopic Approach: Seeing is Believing, NSICON 2019, Mumbai.

Dr. Ved P Maurya

- Invited faculty: Annual Conference of 26th UP- UK NEUROCON 2020, LLRM Medical College, Meerut, 22nd- 23rd February 2020.
- Podium Presentation on “Management of Cervical locked facets: a tertiary centre experience” at Annual Conference of 26th UP- UK NEUROCON 2020, LLRM Medical College, Meerut, 22nd- 23rd February 2020.
- Chaired a session on “role of anti-epileptics in head injury” at Annual Conference of 26th UP- UK NEUROCON 2020, LLRM Medical College, Meerut, 22nd-23rd February 2020.

Workshop organized

- Second Dr. DK Chhabra and Dr. VK Jain oration. Department of Neurosurgery, SGPGIMS, Lucknow Neuro- oncology update 2020, Department of Neurosurgery, SGPGIMS, Lucknow, February, 2020
- Intraoperative neuromonitoring and intraoperative ultrasound workshop, 28th Feb, 2020
- SunoSunao. cochlear implant orientation program, hobby center, SGPGI, January, 2020
- NES Midterm Vertigo Webinars, May-June 2020.

Future plans

- To further, increase the complexities of epilepsy surgery and to start functional Neurosurgery as surgery for movement disorders.
- Proposal of Stereotactic Radio Surgery unit
- Proposal of dedicated Neurosurgery CT scan and DSA lab

- Increase in animal studies
- Establishment of Vestibular Lab, Cochlear Implant Clinic, Vertigo Clinic
- Auditory Brain Stem Implantation
- Starting Mch Course in Neuro-otology in the Department.
- MSc Course in Audio-vestibular Medicine in School of Medical Technology

Achievement summary

- The Department continued to progress in all fields in teaching, training and research in Neurosurgery. The faculty received national and international awards and published several articles in the national and international journals along with many book chapters.

DEPARTMENT OF NUCLEAR MEDICINE

Faculty

1.	Dr. S. Gambhir	Professor & Head
2.	Dr. P. K. Pradhan	Professor
3.	Dr. S. Barai	Addl. Professor
4.	Dr. A. Arya	Addl. Professor
5.	Dr. Manish Dixit	Associate Professor
6.	Dr Manish Ora	Assistant Professor
7.	Dr Aftab H Nazar	Assistant Professor
8.	S. C. Kheruka	Medical Physicist
9.	Sarita Kumari	Medical Physicist

Residents/Students

Senior Residents	04
Junior Residents	15

Patient care Services

OPD

(a) Old Follow Up:	4000
(b) New Registration Admission:	6000

Departmental Activities

Services

The department provides comprehensive Nuclear medicine diagnostic, therapeutic and *in vitro* studies. The PET-CT has been providing oncological imaging services to the patients from UP and near-by states. The diagnostic Oncological studies with FDG are being offered as a matter of routine with very short appointment for the procedure. This is not only helping patients from within the institute but patients from other institutes in Lucknow but other patients of UP who need PET-CT scans for their treatment and followup, as the department is offering PET-CT scans at much lower cost as compared to private and corporate sector. Cyclotron for production of short-lived radio-isotopes for PET-CT has been working and is producing radio pharmaceuticals like ^{18}F -FDG, ^{13}N -Ammonia etc. The ^{68}Ga -DOTANOC PET-CT imaging for neuroendocrine tumors and ^{68}Ga -PSMA for prostate imaging has been well established and has helped patients of such disease to be fully diagnosed and treated at SGPGIMS. State of the art dual head SPECT- CT Gamma cameras installed in the department of Nuclear Medicine help cope-up the load of the patients and to keep the waiting time as minimum as possible for patients. It offers excellent imaging performance for virtually all patient studies including those related to Cardiac, Brain, Kidney, Bone, Thyroid, Cancer patients, Joint, infection and inflammatory disorders. The unique feature of image fusion i.e. fusion of nuclear medicine SPECT image with CT image enables increased diagnostic information and precise tumour localization for optimal patient management.

The department of nuclear medicine at SGPGIMS being the only department in the entire State of UP caters to invitro studies like GFR determination for renal transplant patients. Not only the patients from UP but also from other States like Bihar, Orissa, Jharkhand, West Bengal etc. the patient from Nepal also frequents the department for their investigation and treatment.

Investigations

Following investigations and therapeutic procedures are carried out routinely as patient care services by the department.

Bone Marrow, Brain perfusion SPECT, CSF (Cisternography), G.I. Bleeding detection study, Gastric Emptying, Heart (First Pass), Heart (MUGA), Hepatobiliary scintigraphy, Renal cortical scan (DMSA), Lacrimal Duct, Liver Spleen, Lymphatic System (Lymphoscintigraphy), Meckel's Diverticulum, Myocardial Infarct, Myocardial Perfusion (Tc99m-MIBI), Gastroesophageal reflux study, Parathyroid Imaging, Perchlorate Discharge Test, Phleboscintigraphy, Radio Iodine Uptake, Radioiodine Whole Body scan, Renal Transplant Study, Diuretic Renogram, Renovascular Hypertension (Renogram with Intervention), Salivary glands, Skeletal System, Testicular Scan, Thyroid Scan, Vesico-ureteric Reflux study, Tumor imaging with Thallium-201 and Tc99m-MIBI, and *In-Vitro* Studies, infection imaging, GFR measurement by plasma clearance method..

Estimation of GFR by sample method and in a very short spare of time large number of tests have already been performed after proper standardization. This diagnostic procedure introduced by the department has found to be of immense clinical utility in the overall management of the cases of renal dysfunction.

Due to availability of Samarium-153 by BRIT, BARC, it has been possible to introduce this therapy for palliation of pain caused by skeletal metastases. The department runs an OPD on 5 days a week for follow up of thyroid patients treated with radioiodine. They constitute both benign (hyperthyroid) and malignant disorders.

Following diagnostic investigations were carried out during the year of reporting.

Research Projects

S No.	Title	Name of PI	Funding Agency	Amount	Date of Sanction & Duration
1.	Zr-89 production and Zr-89 Radiopharmaceuticals	Dr. Manish Dixit	IAEA, Vienna, Austria	15,000.0 Euro	20.3.2020, Four Years

Publications

Original Article

- Saxena P, Singh AK, Jaiswal A, Kanaujiya N, Dixit M, Kheruka SC, Gambhir S. ¹⁸F-Fluorodeoxy Glucose [¹⁸F]-FDG: Automated Production Methodology and its Quality Control as Clinical usable Radiotracer, Int. J. Sci. Res. 2020, Dec.
- Srivastava A, Saxena A, Saxena PK, Gupta FK, Shakya P, Srivastava P, Dixit M, Gambhir S, Shukla RK, Srivastava A. An Innovative technique for Electronic Target Model of group-III Nitrides. Scientific Reports-Nature, 2020 Oct 30;10(1):18706.

3. Barai S, Ora M, Gambhir S, Singh A. Does intravenous contrast improve the diagnostic yield of fluorodeoxyglucose positron-emission tomography/computed tomography in patients with head-and-neck malignancy. *Indian Journal of Nuclear Medicine: IJNM: The Official Journal of the Society of Nuclear Medicine, India.* 2020; 35(1):13.
4. Saxena P, Singh AK, Dixit M, Kheruka SC, Mahmood T, Gambhir S. Establishing the [18F]-FDG production via two different automated synthesizer for routine clinical studies: Our Institutional experiences of four Years; *Indian J. Nuc. Med, Article Dec 2020.*
5. Ora M, Nazar AH, Pradhan PK, Mishra P, Barai S, Arya A, et al. The utility of 18F-fluorodeoxyglucose positron emission tomography/computed tomography in differentiated thyroid cancer patients with biochemical recurrence and negative whole-body radioiodine scintigraphy and evaluation of the possible role of a limited regional scan. *Indian Journal of Nuclear Medicine.* 2020;35(3):203.
6. Rangan K, Ora M, Jain N, Israrahmed A, Gambhir S. Multimodality imaging of anti-contactin-associated protein-like 2 antibody-induced nonparaneoplastic limbic encephalitis: Complementary role of fluorine-18 fluorodeoxyglucose positron emission tomography and magnetic resonance imaging. *Indian Journal of Nuclear Medicine: IJNM: The Official Journal of the Society of Nuclear Medicine, India.* 2020;35(1):54.
7. Soni N, Kumar S, Shimle A, Ora M, Bathla G, Mishra P. Cerebrovascular complications in tuberculous meningitis – A magnetic resonance imaging study in 90 patients from a tertiary care hospital. *The Neuroradiology Journal.* 2020;33(1):3–16.
8. Ora M, Nazar AH, Pradhan PK, Mishra P, Barai S, Arya A, Dixit M, Parashar A, Gambhir S. The utility of ¹⁸F-fluorodeoxyglucose positron emission tomography/computed tomography in differentiated thyroid cancer patients with biochemical recurrence and negative whole-body radioiodine scintigraphy and evaluation of the possible role of a limited regional scan, *Indian J. Nuc. Med, Vol 35, 3, 2020, 203-209.*

Case Reports

1. Singh V, Suraj AK, Mishra V, Ora M, Gambhir S. Rib Plasmacytoma with Unusual Sunburst Periosteal Reaction. *Clinical Nuclear Medicine.* 2020
2. Singh V, Kumar A, Singh P, Ora M, Gambhir S. Extensive Extranodal Involvement in a case of Non-Hodgkin's Lymphoma with sparing of lymph nodes and lymphatic organs. *Asia Oceania Journal of Nuclear Medicine and Biology.* 2020;

Book Chapter

1. Gambhir S, Rangan K, Ora M. Role of PET-CT in Central Nervous System Tuberculosis. In: *PET/CT in Tuberculosis.* Springer, Cham; 2020. p. 101–17.
2. Gambhir S, Rangan K, Ora M. Diagnosis of Tuberculosis: Microbiological and Imaging Perspective. In: *PET/CT in Tuberculosis.* Springer, Cham; 2020. p. 9–29.

Review Article

1. Ora M, Gambhir S. Nuclear investigative techniques and their interpretation in the heart and vascular disease. *Annals of Cardiac Anaesthesia.* 2020;23(3):262
2. Ora M, Gambhir S. Myocardial perfusion imaging: A brief review of nuclear and nonnuclear techniques and comparative evaluation of recent advances. *Indian Journal of Nuclear Medicine: IJNM: The Official Journal of the Society of Nuclear Medicine, India.* 2019;34(4):263.

Covid related highlights

Being a Para Medical department therefore three of the faculty participated in COVID centre duties and all the residents are posted in COVID hospital.

Future Plans

Patient Care

1. Enhancement of patient services through new ten bedded radioactive isolation ward, like I-131 and Lu-177-DOTA therapy. These are specialized therapies and presently having waiting time of 3 months or more as SGPGIMS is the major center for these therapies in Uttar-Pradesh and eastern India.
2. Pain clinic using low cost indigenized pain palliation radionuclide therapy for terminally ill cancer patient. This is an already ongoing process and department is planning to increase the procurement of this radioisotope to cater more patients.
3. Making available radio-ligands like [^{18}F]-tau protein tracers, ^{11}C -Arylbenzothiazole-amyloid imaging, for brain imaging with PET-CT. These ligands are for available at very few centers around the globe and the department can provide these in next six months to a year.
4. Installation of 2nd PET-CT scanner to increase throughput and reduce waiting period. To meet out the increasing demand and reduce the waiting period already need is being felt for second PET-CT. Since it's a costly equipment the cost can be met either through government resources or through PPP as per the modalities decided and permitted by the government.
5. Procurement of state of the art gamma cameras for organ specific investigations like CZT camera for non invasive imaging of heart will take the quality to the international level and shorten appointment waiting period for cardiac imaging patients but cost involved has to be worked again either through governmental resources or PPP model. The time line will depend on availability of funds or early decision to go for PPP.

Research

1. Synthesis of newer PET radiopharmaceutical for Tumor/Cancer diagnostics imaging such as [^{18}F]-Fluoro propyl glutamate derivative, $^{99\text{m}}\text{Tc}$ -Galatosylated Human Serum Albumin, ^{64}Cu labeled glycido-urea based imaging agents. This offers benefit of diagnosing disease in respective organs which are not detectable by standard diagnostic modalities.
1. To explore and indulge in 'MAKE IN INDIA' theme to provide low cost indigenized radio pharmaceutical synthesizer for in-house production of radiopharmaceutical along with technical institutes of India like Indian Institute of Technology (IIT).

DEPARTMENT OF OPHTHALMOLOGY

Faculty

1.	Dr. Kumudini Sharma	Professor and Head
2.	Dr. Vikas kanaujia	Professor
3.	Dr. Vaibhav Jain	Assistant Professor
4.	Dr. Rachana Agarwal	Assistant Professor
5.	Dr. Alok Pratap Singh	Assistant Professor

Senior Resident

SR (HS)-6

PDCC-1

Departmental Activities

Patient Care Services

OPD Patients : 8153

Investigations and Procedures

S.No	Name of Proceures	Total
1	Total no. of patients for fundus examination	8148
2	Perimetry	788
3	Tonometry	2986
4	Slit lamp examination	2800
5	Laser	34
6	F.F.A	32
7	Operation (minor)	741
8	Operation (major)	39
9	O.C.T	553
10	Ultrascan (B Scan)	0
11	ORA	19
12	ERG/EOG/VER	81
13	Topography	162

Research Project

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of sanction and duration
1	Randomized Trial of Phacoemulsification versus Laser peripheral iridotomy in patients with Primary Angle Closure Disease	Dr. Vaibhav Kumar Jain	Research Cell, SGPGIMS, Lucknow	05 lacs only	11.01.2021 01 year

Publications

- Agarwal R, Kanaujia V, Mishra P, Sharma K. Tubulo interstitial nephritis and uveitis (TINU) syndrome: our experience, case series accepted in Oman Journal of Ophthalmology (OJO). Ahead of print in Oman Journal of Ophthalmology.
- Agarwal R, Pal S, Sharma K, Jain VK, Mishra P. Fungal infections of the orbit: The present scenario in developing country. Indian J Clin Exp Ophthalmol May 2020. Accepted for publication.
- Jain VK, Agarwal R, Shabari Pal, Kaushik J, Sharma K, Kanaujia V. Corneal biomechanical properties in patient with kidney transplant. Taiwan J Ophthalmology April 2020.
- Jain VK, Kesarwani D, Sharma K, Kanaujia V, Agarwal R. Ologon in Axenfiled -Reiger Anomaly with secondary Glaucoma: A case report with review of literature. Delhi Journal of Ophthalmol 2020;30(1):55-57
- Jain VK, Kesarwani D, Yadav V, Sharma K. Calotropis induced corneal toxicity in Indian medicinal use: a rare case report with review of literature. TNOA J Ophthalmic Sci Res 2020;58:37-39.
- Jain VK, Singh P, Sarswati, Ojha A, Sharma K. Keyser-Fleischer ring with sunflower cataract: a clinching sign of Wilson's disease. TNOA J Ophthalmic Sci Res 2020;58-57
- Jain VK, Singh V, Charlotte A, Kanaujia V, Sharma K. Turbulent Flow in a Cavernous sinus lesion : Does it suggest something. Neuro-ophthalmology July 2020 online.
- Jain VK, Singh V, Charlotte A, Kanaujia V, Sharma K. Turbulent flow in cavernous sinus lesions: Does it suggest something? Neuro-Ophthalmology June 2020. Accepted for publication.
- Kesarwani D, Jain G, Sarswati, Agarwal R, Sharma K, Jain VK. Wolfram syndrome with childhood glaucoma: A rare case report with review of literature. Journal of Clinical & Ophthalmology Research 2020;8:122-124.
- Srivastav Arun K, Singh S, Khatri D, Jaiswal AK, Shaker R, Palliwal VK, Neyaz Z, Sharma K, Behari S. Neurol Endoscopic Endonasal optic nerve decompression with durotomy: Pis Aller in the Mind of a Blind Neurol. India Jan-Feb 2020; 68(1):54-60.

Conference presentation

- AIOC 2020 held at A Dot convention Centre Gurugram from 13th to 16th Feb. 2020 - was chief instructor in the instruction course on clinicoradiological correlation in Neuro-Ophthalmology held on 16th Feb. 2020 and was also a judge in free paper and poster session on Neuro-ophthalmology on 14th & 15th Feb 2020.

2. Attended and presented at 46th Annual Meeting of NANOS 7th to 12th March 2020 at Omni Amelia Island, FL, USA (1) Ganglion Cell Layer Complex and Retinal Nerve Fibre Layer measurements in Pituitary Adenoma cases (2) Monocular visual field defect (VFD) presenting feature of Neurovascular disorder.
3. Speaker and panelist in Webinar held in July 2020 on Glaucoma and Neuro-ophthalmology organized by Sitapur Eye Hospital.
4. Panelist in International webinar on Ocular motility disorder held by Indian Neuro-ophthalmology Society December 2020.
5. Speaker in the symposium on Oculoplasty and beyond and Chairman of Neuro-ophthalmology session in Delhi Ophthalmological Society (DOS) Annual virtual meeting held on 11 and 12 December 2020
6. Presented a paper on delayed Neuro-ophthalmic sequela of head injury in Eye on future virtual conference held by : *LV Prasad Eye Institute, Hyderabad, J Telangana*
7. Panelist in Autumn Glaucoma Case Files series in Normal Tension Glaucoma Session on 10th Nov 2020
8. Faculty talk on 'Primary Angle Closure Glaucoma: A Diagnosis not to err' in First Zonal Webinar of UP State Ophthalmological Society on 'Glaucoma: All you wanted to know' on 8th Nov 2020.
9. Participated as faculty and co-instructor in an Instruction course entitled 'Hitting Glaucoma beyond Optic Disc: A basic clinic-physiological Approach' and delivered a talk on 'Sleep Apnoea & Glaucoma' in Annual Conference of AIOS on 14th Feb 2020 held at Gurugram.
10. Faculty talk entitled 'Case based approach in understanding clinico-radiological correlation in Neuro-Ophthalmic Imaging' in a special session in AIOS on 16th Feb 2020 held at Gurugram.
11. Faculty talk in Primary Angle Closure Disease in a PG Teaching program on 9th May 2020 via tele-conferencing.
12. Participated as a Panelist in a Glaucoma symposium organized by Lucknow Ophthalmic Society on 18th September 2020.
13. Participated as co-author in an E-poster entitled 'management of childhood glaucoma in Sturge-Weber syndrome by Ahmed valve implantation' in AIOS conference 13th-16th Feb 2020 at Gurugram.

COVID related highlights

All the faculty members below 60 years were actively performing the COVID duties diligently as and when required by the institute. The faculty after sufficient training to manage COVID patients were posted in different wards of the COVID care center (RCH) and they have tried to deliver their best in terms of COVID care.

Vision of the department

1. The priority of the department would be to enhance academic and research activities. The Postgraduate course in Ophthalmology (MS) to be started soon after an approval of National Medical Council. It will help the department to improve academics, and imparting clinical skills, and research activity among residents.
2. To develop the Retinoblastoma patient care program involving 3 clinical specialty: Ophthalmology, Radiotherapy, and Interventional Radiology.
3. To develop Glaucoma services further, streamlining of digital records, and archiving of all patients records would be done

4. To start PDCC Course in Glaucoma specialty to improve academics in Glaucoma specialty
5. To improve the surgical skill and better patient management for the current senior residents is also the top priority of the department.
6. Considering the need of cornea transplant in our society, the department would like to start an eye bank once the sufficient manpower with technical expertise in the field of eye banking and infrastructure would be available.
7. To enhance the current patient care and management with the latest technology and surgical expertise available in the world.

DEPARTMENT OF PATHOLOGY

Faculty

1. Dr. Rakesh Pandey	Professor*
2. Dr. Manjula Murari	Professor & HOD
3. Dr. N. Krishnani	Professor
4. Dr. Seema Sharma	Professor
5. Dr. Manoj Jain	Professor
6. Dr. Lily Pal	Professor
7. Dr. Vinita Agrawal	Professor
8. Dr. Niraj Kumari	Professor *
9. Dr. Sushila Jaiswal	Professor
10. Dr. Ram Nawal	Professor
11. Dr. Ritu Verma	Professor
12. Dr. Neha Nigam	Asstt. Professor
13. Dr. Pallavi Prasad	Asstt. Professor
14. Dr. Raghavendra	Asstt. Professor

**Professor Rakesh Pandey superannuated on 31.8.2020.*

**Prof Niraj Kumari joined AIIMS, Raebareli in October 2020 (on lien)*

At present the department has advanced diagnostic Histopathology and Cytopathology services and most of the laboratories having state-of the-art automation in Clinical Chemistry, Hematology and coagulation laboratories. Immunohistochemistry, immunofluorescence and frozen section facilities are available routinely. The department is also equipped with transmission electron microscopes for patient service, training and research. Molecular pathology investigations are carried out using the facilities in Core lab and Department of Genetics, the department would expand the diagnostic services after the additional laboratories are made functional in the extension of the new diagnostic block. All the laboratory reporting is carried out on HIS of the Institute

The department is actively engaged in postgraduate (MD and PDCC) teaching program and regular interdepartmental teaching sessions are held with the clinical departments for the DM and MCh students. Teaching program of Nursing and Medical Technology courses are also supported. Faculty members from the department are actively engaged in various extra departmental administrative activities of the Institute.

Senior Residents (PDCC & Hospital Services), Junior Residents & Ph.D. students

The Department is running MD (Pathology) and PDCC (Renal Pathology) courses on full- time residency positions for these courses. Besides, there are Hospital Service Senior Residents who actively participate in patient care and teaching training activities. The department also running PhD program and presently five students are registered.

Senior Resident (HS SR): 16

PDCC: 2

Junior resident: 10

PhD: 5

Departmental Activities

Patient Care Services

Histopathology including Frozen section	6009
Cytopathology	4503
Immunohistochemistry and Electron Microscopy	1367
Urinalysis and Body Fluids	19761
Hematology tests	245892
Coagulation tests	30664
Bone Marrow Aspiration/Biopsy	30
Clinical Chemistry tests	607530
TOTAL	915756

In addition, molecular diagnostic tests including EGFR, BRAF mutations and MGMT methylation are carried out utilizing Core Lab facilities.

Teaching and Training

1. Faculty members, senior residents and MD students of the Department participate in journal clubs and seminars, which are held once a week.
2. Clinic pathological slide seminars (Two per week) are held in association with clinical departments, viz. Gastrointestinal & Hepatic Pathology, Renal Pathology, Immunopathology, Neuropathology, Endocrine Pathology and Urologic Pathology.
3. Lecture/tutorials and case discussions for MD students are held twice a week.
4. DM/M.Ch/MD students from clinical departments are posted in the department for 2-4 weeks for training in pathology related to their specialty.
5. Lectures delivered for the Nursing College, SGPGIMS and B.Sc./M.Sc. Laboratory Technology courses by faculty and residents of Pathology.
6. Department regularly participates in Telepathology program held at Centre for Telemedicine.

Honors & awards

Prof. Vinita Agrawal

- Immunohistochemistry lab is participant of the External quality control assessment scheme of the National Cancer Grid (NCG-EQAS), conducted by TMH, Mumbai. The results have shown a good concordance for various immunostains performed in our Lab.
- Member Secretary, Institutional Ethics Committee, SGPGIMS, Lucknow (2016-2019; re-appointed 2019-2022)
- Treasurer, Indian Society of Renal and Transplantation Pathology (Re-elected 2019)
- Coordinator and In charge 'Medical Ethics Program' at SGPGIMS, held every month as an initiative of the Department of Medical Education, Govt. of UP, India, 2020.

- Chief Coordinator (2020) of Women empowerment program in the Institute, an initiative of the Govt. of UP, India, 2020.
- Reviewer of several National and International journals.
- Successfully completed the 'Basic course in Biomedical Research' as mandated by the National Medical Commission (session March-Jun 2020, including assignments and theory examination).
- Granted approval by SERB-DST to conduct a Karyashala workshop in 2021 on 'Transmission Electron Microscopy in Life Sciences: Procedure and Applications under the 'Accelerate Vigyan' scheme of the Govt. of India.
- Nominated member of the Heart, Lung and Heart-Lung Transplantation Committee at SGPGI.
- PhD guide: 3 students

Prof. Sushila Jaiswal

- Faculty in the 2nd Dr. DK Chhabra and Dr. VK Jain oration and Surgical Neurooncology update, SGPGI, Lucknow, 28th February - 1st March 2020.

Prof. Ram Nawal

- Member, International Academy of Cytology (MIAC).

Referee/Reveiwewer of a Journal

Prof. S. Sharma

- International Journal of Lab Hematology
- Journal of Clinical Lab Analysis

Prof. Manoj Jain

- Indian Journal of Pathology & Microbiology
- Indian Journal of Nephrology
- Indian Journal of Transplantation
- Indian Journal of Urology

Prof. V. Agrawal

- Editorial Board Member of an International Journal 'Glomerular Diseases', 2020

Dr. Raghavendra L.

- Journal of Laboratory Physicians (Indian)
- Indian Journal of medical specialties.

Research Projects

Intramural

S No	Title of Project	Name of P.I.	Funding Agency	Amount	Date of sanction & Duration
1.	Evaluation of 1p and 19q chromosome status in oligodendroglial tumors	Dr.Sushila Jaiswal	SGPGIMS	Rs. 5 lacs	Two years

2.	Role of serum biomarker in high grade glioma	Dr. Kuntal Kanti Das, S. Jaiswal (Co-I)	SGPGIMS	Rs. 5 lacs	Two years
3.	Role of Factor-H Related Proteins in Complement-3 Glomerulopathy	Dr. Pallavi Prasad	SGPGIMS	Rs. 4.56 lacs	11.01.2021 (Two years)
4.	Role of circulating tumor DNA EGFR mutations in Disease Monitoring of Non-small-cell Lung Carcinoma	Dr. Raghavendra L	SGPGIMS	Rs. 5 lacs	Aug 2019 (two years)
5.	Title Role of IHC in subtyping & differentiating Progressive Familial Intrahepatic Cholestasis (PFIC) from other causes of Pediatric Cholestatic Disease	Dr. Neha Nigam	SGPGIMS	Rs. 5 lacs	23.12.2020

Extramural

S No	Title of Project	Name of P.I.	Funding Agency	Amount	Date of sanction & Duration
1.	Circulating microparticles & monocyte activation in IgA Nephropathy	Dr. V. Agrawal	SERB-DST	Rs. 45 lacs	2019
2.	Circulating Endothelial Microparticles and Microvascular injury in Renal Allograft Dysfunction	Dr. V. Agrawal	ICMR	Rs. 45 lacs	2019
3.	Indigenization and Improvisation of Puncher Gun for Manual Tissue Microarray Construction	Dr. V. Agrawal	IIT-Kanpur	Rs. 10 lacs	2018
4.	Metabolomic profile of ampullary carcinoma	Dr. Raghavendra	ICMR	Rs. 40 lacs	Approved on 20-03-2020 for two years

Publications

Original Articles

1. Agrawal V, Bharti N, Pandey R. Human epidermal growth factor receptor 2 (HER2) gene amplification in non-muscle invasive urothelial bladder cancers: Identification of patients for targeted therapy. Arab J Urol. 2020 Sep 2;18(4):267-272. doi: 10.1080/2090598X.2020.1814183. PMID: 33312739; PMCID: PMC7717524.

2. Agrawal V, Nath C, Mishra SK. Ethics committee meeting by video-conferencing during Covid-19. *Indian J Med Ethics*. 2020 May 27;(-):1-2. doi: 10.20529/IJME.2020.062. Epub ahead of print. PMID: 32546456.
3. Agrawal V, Neyaz Z, Kapoor R. Thyroid-Like Follicular Carcinoma of the Kidney with Oncocytic Cells: A Case Report and Review of Metastatic and Non-metastatic Tumors. *Int J SurgPathol*. 2020 Jun 2;1066896920930283. doi: 10.1177/1066896920930283. Epub ahead of print. PMID: 32484016.
4. Attri GS, Gosal JS, Khatri D, Das KK, Bhaisora KS, Mehrotra A, Sardhara J, Srivastava AK, Behari S, Jaiswal S, Jaiswal AK. Endoscopic Third Ventriculostomy and Simultaneous Tumor Biopsy in Pineal Region Tumors using the "Single Burr Hole" Technique: An Analysis of 34 Cases. *Asian J Neurosurg* 2020; 15: 976-982
5. Das KK, Attri G, Singh S, Bhaisora KS, Verma P, Jaiswal S, Jaiswal A, Behari S. Intradural Extramedullary Nonconus Nonfilum Spinal Ependymomas: Report of a Rare Variant and Newer Insights into Their Histogenesis with Proposal of a Classification Scheme and a Management Algorithm Based on a Review of Literature. *World Neurosurg*. 2020 Feb;134:323-336.
6. Gunna S, Neyaz Z, Bhatia E, Marak RS, Mishra R, Verma R. Results of Percutaneous Computed Tomography-Guided Biopsy of Adrenal Lesions and Spectrum of Computed Tomography Findings. *J Clin Imaging Sci*. 2020 Apr 6;10:16. doi: 10.25259/JCIS_3_2020. eCollection 2020. PMID: 32363079
7. Gupta S, Rangari KV, Mehrotra A, Pal L, Jaiswal AK, Kumar R. Temporal lobe angiocentric glioma with oligodendroglioma like areas : a rare association of an uncommon tumor. A case report with review of literature.. *Childs Nerv Syst*. 2020 Mar; 36(3) 641-646.
8. Lal H, Yadav P, Dey M, Jain M. Rare case of focal mass like perirenal extramedullary haematopoiesis in a renal transplant recipient. *BMJ Case Rep*. 2020;13(7)
9. Malik S, Bajpai V, Betai S, Pal L, Marak SK. An unusual case of Microascus brain abscess in an immunocompetent child and a review of literature. *J family Med Prim Care* 2020 Feb 28;9(2): 1244-1247.
10. Mathur A, Mundada K, Verma A, Agrawal V, Verma V, Ghoshal UC. Eosinophilic gastroenteritis presenting as achalasia cardia and responding to botulinum injection and therapy directed against eosinophilic esophagitis. *Indian J Gastroenterol*. 2020 Jan 16. doi: 10.1007/s12664-019-01012-y. [Epub ahead of print] PubMed PMID: 31950436.
11. Mehrotra A, Singh S, Kanjilal S, Kumar A, Pal L, Mathur V, Paliwal VK, Sardhara J, Bhaisora KS, Srivastava AK, Jaiswal AK, Behari S. Long- Term Epilepsy- Associated Tumors (LEATs) : A single center, retrospective series and review of literature on factors affecting the seizure outcome. *World Neurosurg* 2020 Aug 10; S1878-8750(20)3180-5.
12. Mehrotra A, Singh S, Kanjilal S, Pal L, Paliwal VK, Sardhara J, Verma PK, Maurya VP, Bhaisora KS, Das KK, Srivastava AK, Jaiswal AK, Behari S. Factors affecting seizure outcome in Long-term epilepsy associated tumors (LEATs) in children and young adolescents. *Clin Neurol Neurosurg* 2020 July 23; 197 : 106104.
13. Paliwal VK, Rai AS, Kumar S, Verma R, Agarwal V. Proximal Muscle Weakness With Overlying Hypokalemic Periodic Paralysis in Sjögren Syndrome: Report of 6 Cases. *J Clin Rheumatol*. 2020 Jan;26(1):24-27. doi:10.1097/RHU.0000000000000776. PMID: 29667944.
14. Prasad N, Kurian J, Agarwal V, Bhadauria D, Behera M, Yacha M, Kushwaha R, Agrawal V, Jain M, Gupta A. Long-term outcomes of lupus nephritis treated with regimens based on cyclophosphamide and mycophenolate mofetil. *Lupus*. 2020;29:845-853

15. Prasad N, Kurian J, Agarwal V, Bhadauria D, Behera M, Yacha M, Kushwaha R, Agrawal V, Jain M, Gupta A. Long-term outcomes of lupus nephritis treated with regimens based on cyclophosphamide and mycophenolate mofetil. *Lupus*. 2020 Jul;29(8):845-853. doi: 10.1177/0961203320926256. Epub 2020 May 21. PMID: 32437258.
16. Rahman K, Chandra D, Singh MK, Gupta R, Sharma A, Paul P, Kumar S, Sharma S, Nityanand S. Mutant specific anti calreticulin antibody (CAL2) immunohistochemistry as a screening test for calreticulin (CALR) mutation testing. *Int J Lab Hematol*. 2020;00:1-8.
17. Rao RN, Sharma T, Verma V, Singh A. Gestational choriocarcinoma: Report of two cases. *IP Archives of Cytology and Histopathology Research* 2020;5(4):320-322
18. Ravindranath A, Pai G, Sarma MS, Srivastava A, Lal R, Agrawal V, Marak R, Yachha SK, Poddar U, Prasad P. Gastrointestinal Basidiobolomycosis- A mimicker of lymphoma. *J Pediatr*. 2020 Sep 8:S0022-3476(20)31137-9. doi: 10.1016/j.jpeds.2020.09.009.
19. Ravindranath A, Sarma MS, Agrawal V. A Bite of Truth Through the Teeth. *Gastroenterology*. 2020 Mar 3:S0016-5085(20)30277-8. doi: 10.1053/j.gastro.2020.02.050. Epub ahead of print. PMID: 32142772.
20. Saikumar Doradla LP, Lal H, Kaul A, Bhadauria D, Jain M, Prasad N, Thammishetti V, Gupta A, Patel M, Sharma RK. Clinical profile and outcomes of De novo posttransplant thrombotic microangiopathy. *Saudi J Kidney Dis Transpl*. 2020;31:160-168
21. Singh A, Singh S, Agrawal S, Verma J, Singh S, Misra P, Jaiswal AK, Behari S, Jaiswal S. A single-centre observational study of 124 surgically managed glioma patients: molecular subtyping and its correlation with clinico-radiological profile. *Int Surg J*. 2020;7:3047-55.
22. Srinivasan R, Gupta P, Rekhi B, Deb P, Nijhawan VS, Prasoon D, Iyer V, Mathur S, Gupta N, Kamal M, Goel MM, Chakrabarti I, Jena M, Rao RN, Rajwanshi A, Raju S, Verma S, RGW Pinto. Indian academy of cytologists national guidelines for cytopathology laboratories for handling suspected and positive COVID-19 (SARS-COV-2) patient samples. Review article *JOC* : 2020; 37(2):67-71
23. Srivastava A, Prasad D, Panda I, Yadav R, Jain M, Sarma MS, Prasad R, Poddar U, Yachha SK. Transjugular Versus Percutaneous Liver Biopsy in Children: Indication, Success, Yield, and Complications. *J Pediatr Gastroenterol Nutr*. 2020;70:417-422
24. Valiveru RC, Agarwal G, Agrawal V, Gambhir S, Mayilvaganan S, Chand G, Mishra A, Agarwal A, Mishra SK. Low-cost Fluorescein as an Alternative to Radio-colloid for Sentinel Lymph Node Biopsy-a Prospective Validation Study in Early Breast Cancer. *World J Surg*. 2020 Oct;44(10):3417-3422. doi: 10.1007/s00268-020-05631-x. PMID: 32504276.
25. Wani AS, Zahir Z, Gupta A, Agrawal V. Clinicopathological pattern of non-lupus full house nephropathy. *Indian J Nephrol* 2020;30:301-6.
26. Wani AS, Zahir Z, Gupta A, Agrawal V. Clinicopathological Significance and Renal Outcomes of Light Microscopic Patterns in Complement Component 3 Glomerulopathy. *Nephron*. 2020;144(5):228-235. doi: 10.1159/000506290. Epub 2020 Mar 10. PMID: 32155638.
27. Yadav B, Prasad N, Agarwal V, Agarwal V, Jain M. Hidden Granzyme B-Mediated Injury in Chronic Active Antibody-Mediated Rejection.. *Exp Clin Transplant*. 2020;18:778-784
28. Zahir Z, Wani AS, Gupta A, Agrawal V. Pediatric C3 glomerulopathy: a 12-year single-center experience. *Pediatr Nephrol*. 2020 Sep 30. doi: 10.1007/s00467-020-04768-0. Epub ahead of print. PMID: 33000324.

Case Reports

1. Garg A, Kumar P, Rao RN, Kashyap R. Myeloma-associated amyloid arthropathy masquerading as seronegative arthritis. *South Asian J Cancer*. 2020;9(1):37. doi:10.4103/sajc.sajc_235_19
2. Kumar S, Kalita J, Rao R N, Misra UK. Unusual association of leprosy with Lucio phenomenon with secondary antiphospholipid antibody syndrome and ischemic stroke July 21, *Neurology India* 2020, IP: 14.139.245.181]
3. Rao RN, Verma V, Rai V, Singh A. Gastrointestinal basidiobolomycosis in children mimicking as abdominal malignancy: A rare case report. *IP Archives of Cytology and Histopathology Research* 2020;5(3):254-257
4. Ravindranath A, Pai G, Sarma MS, Srivastava A, Lal R, Agrawal V, Marak R, Yachha SK, Poddar U, Prasad P. Gastrointestinal Basidiobolomycosis: A Mimic of Lymphoma. *The Journal of Pediatrics*. 2020 Sep 8; 228:306-7
5. Sengar P, Verma R, Singh VK, Paliwal VK "Quiet Nerve Paralysis" due to Symmetrical Neuropathy in Pure Neuritic Leprosy. *NEUROLOGY Ahead of pub*
6. Verma J, Rao RN. Penial parenchymal tumour of intermediate differentiation: A case report. *IP Archives of Cytology and Histopathology Research* 2020;5(2):1-3

Book Chapter

1. Jaiswal S, Singh A. Immunohistochemistry in Neuro-oncology in *The Operative Atlas of Neurosurgery*

Review Article

1. Verma R, Paliwal VK. Idiopathic inflammatory myopathy: From muscle biopsy to serology. *Indian J Rheumatol* 2020;15:S123-30. DOI:10.4103/injr.injr_165_20

Conference Presentations

International conferences

Prof N. Krishnani

- USCAP 109th Annual meeting 2020, held at Los Angeles, California. USA from 28.2.2020 to 7.3.2020

Prof. Seema Sharma

- Sharma S, Yadav S, Rahman K, Murari M: Spectrum of Mature B Cell Lymphoid Neoplasms with Peripheral Blood Involvement: A Morphologic and Flowcytometric Study. Virtual Conference on Lymphoid, Dermato Pathology & Cytopathology, Colombo, Sri Lanka 15th - 17th Oct 2020

National conferences

Prof. M. Murari

- National Conference of 'Indian Society of Hematology and Blood Transfusion Haematocon Virtual-2020' held on 20th to 22nd November 2020 and presented a poster 'Bone marrow trephine biopsy in myeloproliferative neoplasm, unclassified (MPN-U).

Prof. Manoj Jain

- Chairperson in “Dialogues in Urooncology: Uropathology Summit 2020” at Jayaramdas Patel Academic Centre , Muljibhai Patel Urological Hospital, Nadiad 21st to 23rd February 2020.
- Invited faculty e conference of KAPCON2020 (47th Annual Conference of Karnataka Chapter of Indian Association of Pathologists and Microbiologists, KCIAPM) from 2nd October 20 4th October 2020 and delivered talk on “Spectrum of renal Lesions in diabetics”

Prof. Vinita Agrawal

- Presentation as Faculty in the Session on ‘Pathology of Native Kidneys’ during the International Update on Renal and Transplantation Pathology (IURP 2020), 15-16th February, 2020.
- Talk in the webinar series on ‘Tools and technique in Biotechnology’- part 1: Electron Microscopy’ conducted by Amity University, on 18th July 2020.
- Participated in ‘An update on ICMR National Ethical Guidelines with special reference to epidemiological research’, held on 3rd November, 2020, organized by ICMR Bioethics Unit, NCDIR, Bengaluru.
- Presented oral paper titled ‘Ethics Committee Meetings during a Pandemic: SGPGIMS Experience for COVID-19 Research’ in the 7th National Conference of Forum for Ethics Review Committees In India (FERCI) FERCICON 2020, organized by the Department of Pharmacology, PGIMER, Chandigarh, 27th-29th November, 2020.
- Presented paper titled ‘Alterations in Cell Proliferation and Epithelial-Mesenchymal Transition (EMT) pathways with Progression in Recurrent Non-Muscle Invasive Bladder cancers’ at the 32nd Congress of the European Society of Pathology and XXXIII International Congress of the International Academy of Pathology, held online from 6th to 8th Dec. 2020.

Prof. S. Jaiswal

- Jaiswal S. Molecular markers in glioma: what a surgeon must know. in The 2nd Dr DK Chhabra and Dr VK Jain oration and Surgical Neurooncology update, SGPGI, Lucknow, 28th February - 1st March 2020

Prof. Ram Nawal

- Webinar on Digital Pathology Virtual Submit 19-20 May 2020
- Webinar on Immunohisto chemistry Staining in Digital Pathology Virtual Summit 21st Aug 2020
- Webinar on “Importance of Lab Tests & Genetic Counselling in Pregnancy”, FOGSI in association with Metropolis Healthcare, 28th August 2020
- Indian Academy of Cytologists, Golden Jubilee Web E-Lecture Series, “JEWEL -50” SERIES, 21st Nov 2020
- Virtual Cytopathology CME 2020 under IAC-UP Chapter, Organised by Deptt of Pathology, SRMS-IMS, Bareilly ON 13th Dec-2020
- On line CME on Bone and Soft Tissue Tumours 26.12.2020 Under IAPM-UP Chapter
- Idiopathic Retroperitoneal Fibrosis, Online International CME in Pathology, Goa, India
- Choriocarcinoma, Online International CME in Pathology, Goa, India

Dr. Neha Nigam

- 9th Dr. V. Ramalingaswami Oration and Hepatopathology Virtual meet-2020 on 8th August, 2020.
- Breast Cancer Awareness for rural surgeons and MBBS students on 17th October, 2020.

Dr. Pallavi Prasad

- International Update on Renal & Transplantation Pathology 2020 (5th and 6th Feb, 2020)
- PGIMER Neuropathology teaching course 2020 (5th dec, 2020) [online].
- Webinar on study design and sample size estimation (12th and 13th Dec, 2020) [online]- organised by Dept. of Biostatistics and Health Informatics, SGPGIMS.

Workshop/ Conferences**Prof. Vinita Agrawal**

- Organized and conducted series of seminars in the 'Medical Ethics Program' at SGPGIMS through videoconferencing in 2020, as an initiative of the Department of Medical Education, Govt. of UP, India.
- Organized and conducted Women Empowerment program onlineon "Rights and Safety of Women in the Workplace", on 23rd October, 2020.

Outstanding Features/Summary**Prof. Manoj Jain**

- Chairman, IRF, SGPGIMS, Lucknow
- Secretary, KamdhenuAtinirdhanchikitsasahyata society, SGPGIMS, Lucknow

Prof. Vinita Agrawal

- Several new immunostains have been started in the Immunohistochemistry Lab for patient care. The Ventana immunostainer is working efficiently and we plan to introduce some more FDA-approved tests.
- Well-established immunofluorescence and immunohistochemistry lab receives frequent trainees and visitors from all over India for training in these techniques.
- External examiner in various National courses including DNB (Pathology), and thesis evaluation (M.D and PhD.)
- Contribution of MCQ's for KGMC and DNB (Pathology).
- External examiner for conduction PDCC (Renal Pathology), at Amrita Institute of Medical Sciences, Kochi and at ISKDRC (Institute of Kidney Diseases and Research Center), Ahmedabad.
- Conducted NABH survey of Institutional Ethics Committee for NABH accreditation, as Member Secretary, IEC and in-charge Bioethics Cell.

Prof. Ram Nawal

- Standardised Fluorescence in Situ Hybridization and Q-RT-PCR on Cellblock and Tissue Section.
- Regarding Meeting Minute dated 23.12.2020 of UPMSCL Equipment Purchase
- High Level Committee Meeting at UPUMS, Saifai, Etawah-2020
- Regarding Technical Specification of Equipment under NHM Program
- Co-Ordinator, 24 hrs Stat Lab and ATC Lab, SGPGI.
- Completed one Phd student under my guidance Thesis Topic entitle as
- Expression of MUC1 and HER2 and its Correlation with Gene amplification in Adenocarcinoma of Stomach

COVID related highlights

1. All Faculty members performed Rotational ECCS duties in telemedicine providing online consultations.
2. Senior Residents and Junior Residents performed clinical duties in COVID Hospital including E.corner sample collection area.
3. Prof. Vinita Agrawal-Conducted series of Seminars on Ethical aspects related to COVID with regular full board IEC Ethics meetings via videoconferencing
4. Dr. Ram Nawal-Member of Covid 19 Task Force to cooperate and coordinate the duty arrangements of Residents for covid duty.
5. Dr. P. Prasad-Member of Covid HCWs Infection Committee, which was formed in view of infection among health care workers at our institute during coronavirus pandemic.
6. Dr. Raghavendra L. Member of Covid Quarantine Committee, which was formed to accommodate health care workers at our institute and various outside accommodation facilities during this pandemic.

Vision of the Department

The Department of Pathology is currently providing state-of-art diagnostic facilities in the areas of surgical pathology, cytopathology, immunohistochemistry, electron microscopy, hematology and clinical chemistry and is associated with teaching and training activities of the department and the institute. In the view of the ever increasing requirements from the clinical subspecialties and growing technical advances in the diagnostics and research, the needed boost in all working spheres is required for a continued development and progress of the department. All the three areas including patient care services, teaching and research need to be expanded. However in order to achieve higher goals the infrastructure and administrative support will be required in terms of infrastructure, space, manpower and availability of latest technology.

Plan for next five years

The future plans are summarised under the headings of teaching and training, diagnostic services, and research activities.

Teaching and Training

The department plans to strengthen the existing teaching and training activities. In addition, the department also plans to introduce regular faculty development training programs by running short-term courses in technical advances and specialty pathology areas.

The Department also plans to establish digital archiving of histopathology, cytopathology and hematopathology teaching material to augment teaching and training in pathology and for development of online teaching and telepathology activities.

The Department plans to start new Courses: PDCC courses in subspecialty pathology

1. PDCC in gastrointestinal and hepato-biliary pathology
2. PDCC in endocrine and breast pathology
3. PDCC in cytopathology

Diagnostic services

Augmentation of existing facilities and development of newer diagnostic modalities including in-situ hybridization, DNA diagnostics, electron microscopy in neuro-muscular disorders, flow cytometry, automation in cytology, and liquid-based cytology.

Research Activities

The department plans to continue to pursue the cutting-edge active research interest in the frontiers of pathology, in addition to actively collaborating with the other clinical departments of the Institute in various thrust area projects such as renal pathology, gastrointestinal and hepatic pathology, endocrine pathology, pulmonary pathology, immunopathology, and organ transplant pathology, etc.

DEPARTMENT OF PEDIATRIC GASTROENTEROLOGY

Faculty

1. Dr. Ujjal Poddar	Professor & Head
2. Dr. Anshu Srivastava	Professor
3. Dr. Laxmi Kant Bharti	Additional Professor
4. Dr. Moinak Sen Sarma	Assistant Professor

Residents/Students

DM students: 6

PDCC: 4

Hospital Service Senior Resident: 1

Departmental Activities

Patient Care Services

Old follow-up	:	1232
E-OPD + Physical OPD	:	3135
New Registration	:	351
Admission	:	533

Investigations & Procedures

Pediatric Gastro Lab: (Total: 520)

1. HAV IgG	:	71
2. Blood ammonia	:	86
3. Galactose 1 PUT (Quantitative)	:	61
4. Non-Glucose reducing substances	:	113
5. Sweat chloride (Pediatric)	:	13
6. Urinary copper (24 hrs collection)	:	141
7. Hepatic copper	:	35

GI Pathophysiology and motility Lab (Total: 6)

1. Anorectal high resolution Manometry (Pediatric)	:	01
2. Esophageal High resolution Manometry (Pediatric)	:	04
3. Glucose hydrogen breath test	:	01

Endoscopy services (Total: 1087)

1. UGIE (Diagnostic)	:	196
2. EST	:	355
3. EVL follow up	:	150
4. EVL-1 st session	:	30

5. Eso. Dilatation	:	207
6. FB Removal	:	03
7. FC + PP	:	14
8. Glue Injection	:	02
9. Proctosigmoidoscopy	:	27
10. Short Colonoscopy	:	01
11. Antral CRE Dilatation	:	07
12. NJ Placement	:	09
13. ERCP, Papillotomy	:	01
14. Achalasia dilatation	:	02
15. Pseudocyst drainage	:	02
16. Full Colonoscopy	:	71
17. Pediatric APC	:	02
18. EUS	:	06
19. Capsule Endoscopy	:	02

Teaching and Training including

1. DM in Pediatric Gastroenterology: two students per year
2. PDCC in Pediatric Gastroenterology: four students per year
3. Hospital Service Senior Residents: One in the year 2020

Honors& Awards

Dr. Ujjal Poddar

- International Advisory Committee member: Asia Pan-Pacific Society of Pediatric Gastroenterology, Hepatology and Nutrition (APPSPGHAN): Pediatric IBD-2020
- Member, IBD_ Emerging Nations' Consortium (IBD_ENC): 2020
- Member Specialist Board (Pediatric Gastroenterology): National Board of Examinations, New Delhi from August 2020.
- Re-appointed as Section editor, Gastroenterology, Indian Pediatrics, 2020-2021.

Dr. Anshu Srivastava

- First Research day on 14th Dec 2020- Best Research paper award in the category of Professor and Medical side.

Dr. Moinak Sen Sarma

- First Research day on 14th Dec 2020- Best Research paper award in the category of Assistant Professor and Medical side.

Other awards (Awards to residents)

- One of the first three best abstracts (Oral): Dr. Amrit Gopan, et al. 29th United European Gastroenterology Week (virtual), October 11-13, 2020.

- One of the first three best abstracts (Poster): Dr. Jayendra Seetharama, et al. 29th United European Gastroenterology Week (virtual), October 11-13, 2020.
- Best paper award (Hepatology, Oral): Dr. Jayendra Seetharaman, et al. Is exchangeable copper, a better prognostic tool for assessing treatment control in hepatic Wilson's disease in children? 7th annual conference of Indian society of Pediatric Gastroenterology, Hepatology and Nutrition, September 26-27, 2020.
- Best paper award (Gastroenterology, Oral): Dr. Amrit Gopan, et al. Is gluten free diet deficient in Selenium? A Prospective study in children with celiac disease. 7th annual conference of Indian society of Pediatric Gastroenterology, Hepatology and Nutrition, September 26-27, 2020.
- Presidential Poster Award: Dr. Jayendra Seetharaman, et al. Efficacy of amitriptyline in Pediatric Functional abdominal pain disorders: A randomized placebo-controlled trial. 61st Annual Conference of Indian Society of Gastroenterology- ISGCON 2020, December, 2020.

Member of Editorial Committee

Dr. Ujjal Poddar

- Section Editor, Pediatric Gastroenterology, Indian Pediatrics

Dr. Anshu Srivastava

- Section Editor- Pediatric Gastroenterology, Indian J Pediatrics
- Member- J Clinical and Experimental Hepatology

Dr. Moinak Sen Sarma

Member

- Indian Journal of Gastroenterology
- World Journal of Hepatology
- Pediatric Gut Liver Journal
- Journal of Clinical and Translational Hepatology

Referee/Reviewer of a Journal

Dr. Ujjal Poddar

- Indian Pediatrics
- Indian Journal of Gastroenterology
- Journal of Gastroenterology Hepatology
- Journal of Postgraduate Medicine
- European Journal of Gastroenterology & Hepatology
- Indian Journal of Medical Sciences
- Indian Journal of Pediatrics
- Journal of Pediatric Surgery
- Tropical Gastroenterology
- Pediatrics
- World Journal of Pediatrics
- Hepatology International

- National Medical Journal of India
- Saudi Journal of Gastroenterology
- Paediatrics and International Child Health (Annals Tropical Pediatrics)
- Indian Journal of Medical Research
- BMC Pediatrics
- Annals of Gastroenterology
- World Journal of Gastroenterology
- Journal of Clinical and Experimental Hepatology
- Journal of Indian Association of Pediatric Surgeons
- Journal of Digestive Endoscopy
- Journal of Pediatrics and Child Health
- BMC Gastroenterology

Dr. Anshu Srivastava

- Pancreatology
- Hepatology International
- Journal Pediatric Child Health
- J Clinical Experimental Hepatology
- J Indian Medical Research
- Indian Journal of Pediatrics
- Indian Pediatrics

Dr. Moinak Sen Sarma

- Indian Journal of Gastroenterology
- BMC Gastroenterology
- Digestive and Liver Disease
- Digestive Diseases and Sciences
- Journal of Clinical and Experimental Hepatology
- Journal of Clinical Apheresis
- Journal of Clinical and Translational Hepatology
- Indian Journal of Pediatrics
- European Journal of Pediatrics

Research Projects

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	The effect of ketogenic diet on expression of P glycoprotein, Histone deacetylase and micro particles in childhood refractory seizure.	As Co PI L K Bharti	Intramural	Rs. 3,00,000	2018 for three years

2.	Assessment of selenium deficiency in gluten-free diet in patients with celiac disease	Moinak Sen Sarma	Intramural grant	Rs. 5,00,000	2 years Sanctioned and started on 19.6.2018 Near completion. Extended till June 2021.
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Publications

Original Articles

- Das MC, Srivastava A, Yadav RK, Yachha SK, Poddar U. Optic nerve sheath diameter in children with acute liver failure: A prospective observational pilot study. *Liver Int.* 2020 Feb;40(2):428-436.
- Das MC, Sen Sarma M, Srivastava A, Yachha SK, Poddar U. Effect of chelation therapy in pediatric Wilson's disease: Liver and endoscopic outcome. *J Hepatobiliary Pancreat Sci.* 2020 Aug 3. doi: 10.1002/jhbp.812. Online ahead of print.
- Jain V, Poddar U, Negi TS, Saraswat VA, Krishnani N, Yachha SK, Srivastava A. Utility and accuracy of transient elastography in determining liver fibrosis: a case-control study. *Eur J Pediatr* 2020;179:671-677.
- Kumar N, Srivastava A, Kumari N, Mittal S, Yachha SK, Naye Z, Poddar U. Prevalence, nature, and predictors of colonic changes in children with extrahepatic portal vein obstruction. *Gastrointest Endosc.* 2020 Apr;91(4):849-858.
- Malik R, Srivastava A, Yachha SK, Poddar U. Chronic vomiting in children: A prospective study reveals rumination syndrome is an important etiology that is underdiagnosed and untreated. *Indian J Gastroenterol.* 2020 Apr;39(2):196-203.
- Poddar U, Yachha SK, Krishnani N, Kumari N, Srivastava A, Sen Sarma M. Solitary rectal ulcer syndrome in children: a report of 140 cases. *J Pediatr Gastroenterol Nutr* 2020; 71:29-33.
- Poddar U, Yachha SK, Srivastava A, Kumari N. Pediatric inflammatory bowel disease: Is it really uncommon in Asian children? *J Gastroenterol Hepatol Open.* 2020 April 26;4(5):860-866, 2020. doi:10.1002/jgh3.12330
- Prasad D, Sen Sarma M, Yachha SK, Srivastava A, Poddar U. Pediatric non-cirrhotic portal fibrosis: role of endoscopic management in determining long-term outcome. *Hepatol Int.* 2020 Mar;14(2):281-287. doi: 10.1007/s12072-019-09979-8.
- Ravindranath A, Srivastava A, Yachha SK, Poddar U, Sarma MS, Saraswat VA, Mohindra S, Yadav RR, Kumar S. Childhood pancreatic trauma: Clinical presentation, natural history and outcome. *Pancreatol.* 2020 Jan;20(1):68-73.
- Ravindranath A, Sen Sarma M, Yachha SK, Lal R, Singh S, Srivastava A, Poddar U, Naye Z, Behari A. Outcome of portosystemic shunt surgery on pre-existing cholangiopathy in children with extrahepatic portal vein obstruction. *J Hepatobiliary Pancreat Sci.* 2020 Mar;27(3):141-148. doi: 10.1002/jhbp.692
- Sen Sarma M, Srivastava A, Yachha SK, Poddar U. Ascites in children with extrahepatic portal venous obstruction: Etiology, risk factors and outcome. *Dig Liver Dis.* 2020 Sep 6:S1590-8658(20)30436-9. doi: 10.1016/j.dld.2020.08.018. Online ahead of print.
- Singh SK, Poddar U, Mishra R, Srivastava A, Yachha SK. Ascitic fluid infection in children with liver disease: time to change empirical antibiotics policy. *Hepatology Int* 2020; 14 (1): 138-144.

13. Singh SK, Sen Sarma M, Yachha SK, Srivastava A, Poddar U. Late-Onset Hepatic Failure in Children: Risk Factors that Determine the Outcome. *Dig Dis*. 2020 Jan 15:1-6. doi: 10.1159/000505124. Online ahead of print.
14. Srivastava A, Prasad D, Panda I, Yadav R, Jain M, Sarma MS, Prasad R, Poddar U, Yachha SK. Transjugular Versus Percutaneous Liver Biopsy in Children: Indication, Success, Yield, and Complications. *J Pediatr Gastroenterol Nutr*. 2020 Apr;70(4):417-422.
15. Srivastava A, Sathiyasekharan M, Jagadisan B, Bolia R, Peethambaran M, Mammayil G, Acharya B, Malik R, Sankaranarayanan S, Biradar V, Malhotra S, Philip M, Poddar U, Yachha SK. Paediatric inflammatory bowel disease in India: a prospective multicentre study. *Eur J Gastroenterol Hepatol*. 2020 Oct;32(10):1305-131
16. Tripathi PR, Poddar U, Yachha SK, Sen Sarma M, Srivastava A. Efficacy of single versus split-dose polyethylene glycol for colonic preparation in children: a randomized control study. *J Pediatr Gastroenterol Nutr* 2020;70 (1):e1-26.
17. Tripathi PR, Sen Sarma M, Yachha SK, Lal R, Srivastava A, Poddar U. Gastrointestinal polyps and polyposis in children: experience of endoscopic and surgical outcomes. *Dig Dis*. 2020 May 25. doi: 10.1159/000508866.
18. Yachha SK, Das MC, Kumar P, Sharma L, Singh SK, Sen Sarma M, Kumar A, Srivastava A, Poddar U. Development of integrated neonatal cholestasis card for early recognition and referral of neonatal cholestasis. *Indian J Gastroenterol*. 2020 Nov 11. doi: 10.1007/s12664-020-01094-z. PMID: 3317537

Case Report

1. Joshi K, Bolia R, **Poddar U**, Dabadghao P. Treatment of consumptive hypothyroidism due to diffuse hepatic hemangiomas with propranolol therapy. *Indian Pediatrics* 2020; 57 (4): 366-368.
2. Pai G, Sarma MS, Pandey R. White-out duodenal mucosa: clue to a systemic diagnosis. *Gastroenterology*. 2020 Apr 17:S0016-5085(20)30497-2. doi: 10.1053/j.gastro.2020.03.079. Online ahead of print.
3. Ravindranath A, Pai G, Sarma MS, Srivastava A, Lal R, Agrawal V, Marak R, Yachha SK, Poddar U, Prasad P. Gastrointestinal Basidiobolomycosis- A mimicker of lymphoma. *J Pediatr*. 2020 Sep 8:S0022-3476(20)31137-9. doi: 10.1016/j.jpeds.2020.09.009. Online ahead of print.
4. Ravindranath A, Sarma MS, Agrawal V. A bite of truth through the teeth. *Gastroenterology*. 2020 Mar 3:S0016-5085(20)30277-8. doi: 10.1053/j.gastro.2020.02.050. Online ahead of print.
5. Ravindranath A, Sarma MS, Jain D. Melena in neonates - Endoscopic surprise. *Gastroenterology*. 2020 Apr 17:S0016-5085(20)30504-7. doi: 10.1053/j.gastro.2020.04.021. Online ahead of print.
6. Samanta A, Srivastava A, Verma S, Sarma MS, Poddar U. White Serum - A Clue to Diagnosis of Acute Recurrent Pancreatitis. *Indian J Pediatr*. 2020 Sep 11. doi: 10.1007/s12098-020-03488-5. Online ahead of print.
7. Sen Sarma M, Yachha SK. Apple-bite colon in a child. *Dig Liver Dis*. 2020 Jul 16:S1590-8658(20)30330-3. doi: 10.1016/j.dld.2020.07.001
8. Tripathi PR, Sen Sarma M, Srivastava A. Pop-corn liver. *Dig Liver Dis*. 2020 Oct 26:S1590-8658(20)30934-8. doi: 10.1016/j.dld.2020.10.004. PMID: 33115626

Letter to the Editor

1. Bolia R, Srivastava A. Natural history of pancreatic fluid collections: are children different from adults? *Pancreatol*. 2020 Sep;20(6):1251-1252.

2. Mandelia A, Sharma MS, Mishra A, Siddiqui Y. Gastric adenomyoma with heterotopic pancreatic tissue. *J Indian Assoc Pediatr Surg* 2020;XX:XX-XX.
3. Mandelia A, Sharma MS, Siddiqui Y, Mishra A. Division of long residual spur after Duhamel's pull through with endo-GIA stapler under colonoscopic guidance. *J Indian Assoc Pediatr Surg* 2020;XX:XX-XX.
4. Sen Sarma M, Gupta P. Ago Years 50 in The Journal of Pediatrics: Pancreatic function in malnutrition. How far have we come? *J Pediatr*. 2020 in press.
5. Srivastava A, Yadav RK, Das MC. Response to comment on: Optic nerve sheath diameter in children with acute liver failure: A prospective observational pilot study. *Liver Int*. 2020 Jun;40(6):1505-1506.

Book Chapter

1. Anshu Srivastava and Surender Kumar Yachha. Functional Gastrointestinal Disorders (FGIDs) of Infancy and Toddler Age Group (chapter 6) in "Essentials of Gastrointestinal Functional and Motility Disorders" Year 2020
2. Moinak Sen Sarma. Acute diarrhea. Evidence Based Practices in Management of Infectious diseases in Pediatrics, Dhanya Dharmapalan, Editor-in-chief. Evangel Publishers, India 2020 (in review)
3. Moinak Sen Sarma. Non-Communicable Tropical Gastrointestinal And Pancreatobiliary Diseases. IAP (Indian Academy of Pediatrics) textbook of Tropical Pediatrics, Raju C Shah, Editor-in-chief. Jaypee Brothers publishers India 2020
4. Surender Kumar Yachha, Moinak Sen Sarma, Anshu Srivastava. Budd-Chiari Syndrome in Children (page 207-218) in the book on Budd Chiari Syndrome Editor Xingshun Qi, Springer Publications 2020
5. Surender Kumar Yachha, Moinak Sen Sarma. Inflammatory bowel disease. Recent Advances in Pediatrics, PSN Menon, Editor-in-chief, Jaypee Brothers publishers India 2020

Review Article

1. Matthai J, Sathiashekharan M, Poddar U, Sibal A, **Srivastava A**, Waikar Y, Malik R, Ray G, Geetha S, Yachha SK; Indian Society of Pediatric Gastroenterology, Hepatology and Nutrition; Pediatric Gastroenterology Chapter of Indian Academy of Pediatrics. Guidelines on Diagnosis and Management of Cow's Milk Protein Allergy. *Indian Pediatr*. 2020 Aug 15;57(8):723-729.
2. Ravindranath A, Sen Sarma M, Yachha SK. Bile acid synthetic defects: Simplified approach in a nutshell. *Hepatobiliary Pancreat Dis Int*. 2020 Feb;19(1):80-84. doi: 10.1016/j.hbpd.2019.09.003.
3. Sarma MS, Ravindranath A. Portal Cavernoma Cholangiopathy in Children and the Management Dilemmas. *J Clin Transl Hepatol*. 2020 Mar 28;8(1):61-68. doi: 10.14218/JCTH.2019.00041. Epub 2020 Jan 29.

Workshop/Conference Presentations

International

Dr. Anshu Srivastava

- AASLD The Liver Meeting 13-16 November- Pediatric Liver Disorders SIG & Portal Hypertension SIG - Part 1 held on Friday, November 13, 2020 from 2:00 PM to 3:30 PM. Presentation Title: Diagnostic Dilemma Case

Dr. L K Bhari

- Accepted Paper for ASPEN-2020, at Tampa, USA. The conference was in March 2020. Conference got cancelled due to Covid 19.

National**Dr. Ujjal Poddar**

- 57th National Conference of Indian Academy of Pediatric (Pedicon 2020), Indore, January 9-12, 2020. Guest lecture: Eosinophilic esophagitis.
- 24th Annual Conference of Indian Society of Gastroenterology, West Bengal Chapter, Raichak, Kolkata, February 7-8, 2020. Guest lecture: Pediatric IBD: How is It Different from Adults?
- IAP Central Zone E-Pedicon, August 23-19, 2020. Guest lecture: Approach to constipation in children on 26th August 2020.
- Clinical case discussion on video conferencing with PGI, Chandigarh, dept of Pediatric Gastroenterology on 11th August 2020. A 5mo old girl with decompensated neonatal cholestasis.
- 7th Annual Conference of Indian Society of Pediatric Gastroenterology, Hepatology and Nutrition, ISPGHAN-eCON_2020, September 26-27. Moderator: debate session: (1) HBV with normal enzymes: to treat or not to treat. (2) IBD: top down or step up. (3) NAC in acute liver failure: selective or universal.
- 4th PGI GI Emergency Update, October 31st and 1st November 2020. Chairperson: session on 'Polypectomy'.
- 27th Annual Scientific Meeting of Indian Society for Study of Liver Diseases (INASL), December 2-4, 2020. Course Director: Pediatric Hepatology course on 3rd December and chairperson: Pediatric Hepatology session.
- Indian Pancreas Club, Webinar Series: Pancreas 2020: An evidence based approach. December 5, 2020, Guest lecture: Pediatric Chronic Pancreatitis.
- 49th Annual State Conference of IAP, Kerala: Alleppey Pedicon 2020, December 15-20, 2020, Guest lecture: What are treatment options in viral hepatitis? "One syndrome, different options."
- Ped Gastro Rajasthan, 1st Monthly Theme Based CME, January 8, 2021, Guest lecture: Frequently asked questions on Celiac Disease.

Dr. Anshu Srivastava

- Chairperson for Paediatric Hepatology Session on Thursday 3rd December 2020 INASL 2020. Talks on ALF and NAFLD
- Talk for dIAP professional education event on "Gastroesophageal Reflux disease" on 25th November 2020
- Chairperson in the session - The Neonatal GI bundle (talk on Neonatal Cholestasis) in UP e-NEOCON (Annual Conference of NNF UP Chapter) 1-4th October 2020
- Moderator for session on Toddler with Chronic Diarrhea in annual conference of pediatric gastroenterology- ISPGHAN e con on 26th and 27th Sep 2020
- Moderator for "Recurrent jaundice in the family of a 2 year old" and Panelist for session "10 year old child noticed to have yellow eyes" in Hepaticon "All about jaundice " held on Sunday, 2nd Feb 2020 at Nehru Centre, Mumbai.

Dr. L K Bhari

- Delivered lecture on "Nutritional Assessment of CLD in children" online webinar for RMLIMS, Lucknow on 31st July 2020.

- Delivered online webinar lecture on “Defence mechanism in breast milk” on 4th August, 2020. Organised by UP chapter IDA.

Dr. Moinak Sen Sarma

- Panelist: Infant with bloody diarrhea (CMPA) at 7th annual meeting of Indian Society of Pediatric Gastroenterology, Hepatology and Nutrition (ISPGHANCON) (Virtual) September 2020
- Guest lecture: Approach to metabolic liver disease: Kalinga Institute of Medical Sciences, Bhubhaneshwar, India, August 2020
- Guest lecture: Case capsules in abdominal pain in a school-going child. North-East Gastro Meet, Guwahati, February 2020

Outstanding features & Summary

Due to Covid-19 pandemic there was a setback in patient care of the department as most of our patients come from various north Indian states and they could not make it due to Covid related restrictions. However, the department contributed immensely in the ongoing Covid care of the institute by actively participating in eCCS (electronic Covid Care support) and involved in the care of admitted corona patients in Rajdhani Covid hospital. The department continued to provide patient care through eOPD and kept its indoor facilities including ICU ward open throughout the year. We continued our endoscopy services (with proper Covid protocol) for children throughout the year.

In teaching front we have successfully conducted both theory and practical examination (online) of our four PDCC and two DM students. Two new DM students and four PDCC students joined our department in December 2020. We continued our daily teaching session for our students through online platform.

In research and publication front, the department's faculty members have done quite well in the year 2020. Two faculty members got best research paper award during the first 'Research Day' of the institute. In the year 2020, the department has published 18 original articles and 16 of them in various international journals of repute. Faculty members and residents received various prestigious international and national awards and delivered online guest-lectures in various national conferences.

COVID related highlights

- Despite Covid pandemic we are able to run our 30-bedded indoor facilities throughout and performed endoscopy twice a week and running both e-OPD and physical OPD with direct faculty involvement.
- Our residents and faculty members were directly involved in care of Covid-19 patients in Rajdhani Covid Hospital.
- All faculty members actively participated in eCCS of the institute.

Vision of the Department

Expansion of infrastructure

- To increase the number of inpatient beds from 30 to 40 [general bed=6, Isolation = 2, Private ward n=2].
- Academic Block: to house faculty offices, Laboratory Space, Research area, Teaching / seminar room etc.
- To create acute liver care unit with dedicated faculty and infrastructure.

- Augmentation of laboratory facilities to do urine succinylacetone for diagnose tyrosinemia and other metabolic liver diseases through blood TMS (tandem mass spectroscopy) and urine GCMS (gas chromatography mass spectrometry).

Expansion of Manpower

- Increase the number of DM seats from 2 to 4.
- To start Post-Doctoral Fellowship in intervention pediatric gastroenterology.
- To start PDCC in clinical nutrition in Pediatric Gastroenterology.
- To increase SR posts (from 10 to 18).

New services

- To start speciality Clinics: Celica disease clinic, IBD-clinic, Liver disease clinic, obesity/NAFLD clinic, etc.
- To increase the OPD services: from 3 to 6 per week.
- To increase the outpatient endoscopy services from 2 to 4 per week.

DEPARTMENT OF PEDIATRIC SURGICAL SUPERSPECIALTIES

Faculty

- | | |
|----------------------------------|------------------|
| 1. Dr. Basant Kumar | Professor & Head |
| 2. Dr. Vijai Datta Upadhyaya | Professor |
| 3. Dr. Ankur Mandelia Additional | Professor |

Department achievement:

1. MCI approved 2 seats for M.Ch. Pediatric Surgery from 2020 session and one candidate joined the department in December-2020.
2. Two new PDF courses approved by academic board (waiting for Institute GB approval)-
 - a. PDF: Pediatric Oncosurgery - one candidate per year.
 - b. PDF: Pediatric Minimal Invasive Surgery - one candidate per year.

Individual achievements of faculty

Prof. Basant Kumar

- Elected as Executive member of Association of Pediatric Oncosurgeons of India (APSO).
- Received fellowship of Indian Association of Pediatric Surgeons (FIAPS).
- Promoted to Professor & HOD.

Dr. Vijai Datta Upadhyaya

- Elected as executive member of Association of Pediatric Surgeons of India.
- Member for standard treatment guideline for pediatric surgeons prepared by Association of Pediatric Surgeon of India.

Dr. Ankur Mandelia

- Elected as executive member of Association of Pediatric Endo-surgeons of India (PESI).
- Received first prize in video presentation in urology session of annual conference of Association of Pediatric Surgeons (2020)

Patient care activities

1. Whole department including Faculty, paramedical staffs and technicians actively participated institute's fight against COVID-19 and performing their best during Covid-duty.
2. Department has elite status in country due to its work in pediatric gastro-surgery field. This year because of COVID - pandemic overall work was suffered but still we managed various difficult hepato-biliary cases (Biliary atresia, Choledochal cyst, Liver resection and spleno-renal shunt) and continued our routine surgeries during this period.
3. We are also performing level three laparoscopic procedures and are placed among top laparoscopic acility hospital in Northern India.
4. Department is also giving care to patients of solid organ cancer in pediatric age group and performed around 40 cases of advanced tumor including: liver, kidney and adrenal gland.
5. Department is now also gaining name in pediatric urology and managing all cases of pediatric urology.

6. Thoracoscopic surgeries and bronchoscopy is now commonly performed at our centre.

Academic:

1. In 2019 -2020 session, two Post-Doctoral Fellows (PDF- Pediatric Surgical Gastroenterology) were trained. Currently 2 PDF are under training.
2. From current session, department will train two PDF candidates in "Pediatric Gastro Surgery", one PDF candidate each in "Pediatric Onco-surgery" and "Pediatric Minimal Invasive Surgery" [Needs Institute GB approval].
3. Two M.Ch. candidates will be trained every year. One candidate joined the department.

Research/Publication/Presentation:

1. Published 8 original articles and 1 case series and 4 case report in different international and national journals.
2. Three intra-mural projects and 6 independent projects.
3. Presented 8 free papers and two posters in the Annual Conference of Indian Association of Pediatric Surgery held in October 2020 (Virtual Conference) and received one best paper award in pediatric urology session.
4. One free paper and Video in Pediatric Urology Annual Conference held in November 2020 (Virtual).
5. One video presentation in Pediatric Colorectal meets 2020.

DEPARTMENT OF PLASTIC SURGERY & BURNS

Faculty

- | | |
|------------------------|---------------------|
| 1. Dr. Rajiv Agarwal | Professor and Head |
| 2. Dr. Ankur Bhatnagar | Professor |
| 3. Dr. Anupama Singh | Associate Professor |

Residents/Students

- | | |
|----------------------|-----------------|
| 4. Dr. Tanjum Kamboj | Senior Resident |
|----------------------|-----------------|

Departmental Activities

Patient Care Services

OPD

- | | |
|--------------------------------|------|
| (a) Old Follow-up | 2500 |
| (b) New Registration Admission | 1000 |

Investigations & Procedures

1. Started new procedure for treating diabetic foot using vascular bypass
2. Started new technique for treating nasal deformities
3. Started new technique for treating lymphatic vascular malformations
4. Started new technique of surgery in cases of chronic mallet finger injury.
5. Lipodermal graft and other procedures for the fitting of an ocular prosthesis in cases of anophthalmia in conjunction with the ophthalmology department
6. Started ear reconstruction by expansion of skin flap- using expander.

Honors & Awards including any Patents

1. Member Executive Committee Venous Association of India

Member of Editorial Committee

1. Member of national editorial advisory board of Journal of Plastic Surgery and Transplantation (JPST)

Referee/Reviewer of a Journal

Rajiv Agarwal

- American Journal of Plastic Surgery
- Plastic and Reconstructive Surgery
- Journal of cleft lip and palate
- American Journal of oral and maxillofacial surgery
- Ankur Bhatnagar
- National Journal of Oral and Maxillofacial Surgery

- Indian Journal of Plastic Surgery
- Indian Journal of Burns
- Journal of peripheral nerve surgery
- Anupama Singh
- Journal of Plastic Surgery and Transplantation (JPST),

Research Projects

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	Impact on Open Chronic Wound management in COVID-19 patients in a Dedicated COVID 19 Superspecialty Tertiary Care Hospital. Is the wound SARS CoV2 (COVID-19) Positive?	Dr Ankur Bhatnagar	Intra Mural		On going
2.	"A Real World observational Registry of Management of Venous Leg ulcers in India	Dr Brajesh Singh	Extra Mural, Serdia Pharmaceuticals	10 Lacs	On Going
3	To evaluate the role of Serum Platelet derived growth factor-BB as a marker in the Diagnosis of Haemangioma	Dr Ankur Bhatnagar	Extra Mural	20 Lacs	Submitted to UPCST for Approval
4	Development of Prosthetic Pinna	Dr Amit Keshri	Extra Mural DIC (Design Innovation Centre) Project Government of India, in Collaboration with IIT, Kanpur	25 lacs	On going under progress: Silicone Prototype Created
5	Management of Recurrent Pilonidal Sinus with Perforator based Flaps	Dr Ankur Bhatnagar	Independent Project	-	Submitted for Publication

Publications

Original Articles

1. Agarwal R, Singhal M, Shankdhar VK et al. Plastic surgery practices amidst global COVID-19 pandemic: Indian consensus. J PlastReconstrAesthetSurg 2020; Aug 8 doi: 10.1016/j.bjps.2020.08.003
2. Singh S, Srivastava AK, Baranwal AK, Bhatnagar A, Das KK, Jaiswal S, Behari S. Efficacy of Silicone Conduit in the Rat Sciatic Nerve Repair Model: Journey of a Thousand Miles. Neurol India. doi: 10.4103/0028-3886.314576. PMID: 33904443.
3. Bhatnagar A, EtiSthapak, Kumar B, Upadhyaya V. Outcome of Intralesional Bleomycin in Cystic Lymphangioma of Major Salivary Glands. Journal of Clinical and Diagnostic Research. DOI: 10.7860/JCDR/2020/43821.13745
4. Singh A, Bhatnagar A*, Singh V. Excision of Large Scalp Arteriovenous Malformations with Aesthetic Scalp Reconstruction. World J Plast Surg. 2020;9(3):302-308. doi:10.29252/wjps.9.3.302
5. Singh A, Bhatnagar A*. Management Of Superficial Partial Thickness Burn With Collagen Sheet Dressing Compared With Paraffin Gauze And Silver Sulfadiazine. Ann Burns Fire Disasters. 2020 Sep 30;33(3):233-238.
6. Bhatnagar A, Singh A. The postburn severe flexion contracture neck correction with split-thickness skin graft: Our experience. Indian J Burns 2020;28:36-43
7. Bhatnagar A, Upadhyaya VD, Yadav R, Kumar B. Management of macrocystic lymphatic malformation at uncommon site with aqueous bleomycin sclerotherapy. Natl J Maxillofac Surg. 2020;11(2):193-198. doi:10.4103/njms.NJMS_48_20
8. Singh A,* Bhatnagar A, Singh V. Excision of Large Scalp Arteriovenous Malformations with Aesthetic Scalp Reconstruction. World J Plast Surg. 2020;9(3):302-308. doi:10.29252/wjps.9.3.302.
9. Singh A*, Bhatnagar A. Management Of Superficial Partial Thickness Burn With Collagen Sheet Dressing Compared With Paraffin Gauze And Silver Sulfadiazine. Ann Burns Fire Disasters. 2020 Sep 30;33(3):233-238.
10. Bhatnagar A, Singh A.* The postburn severe flexion contracture neck correction with split-thickness skin graft: Our experience. Indian J Burns 2020;28:36-43

Conference Presentations

S. No.	Title	Conference name and date
1	Management of Gynaecomastia	Online Mid Term CME Breast Reconstructive and aesthetic Surgeons Association (BRASA). August 2020

Webinars

S. No.	Topic	Webinar
1.	Breast Reduction	Breast Reconstructive and Aesthetic Surgeons Association with Rajasthan Association of Plastic Surgeons.

Workshop/ Conferences Organized

1. Mid Term CME BRASA (Annual Mid Term CME of Breast Reconstructive and Aesthetic Surgeons Association)

Outstanding Features/Summary

Dr. Ankur Bhatnagar

- Appointed Member Advisory Committee -Engineering Section SGPGIMS
- Continued as Sub Dean Student Affairs and Training SGPGIMS.
- Contributed to Question Banks for Plastic surgery entrance exam in multiple universities Including DNB
- Member examination cell , for conduct of various exit and entrance exam of the Institute
- SGPGIMS Nodal officer for Medical Council of India
- Appointed Faculty for Diploma in Physiotherapy Course in College of Medical Technology -SGPGIMS
- Member MIS Cell SGPGIMS
- Member SGPGIMS Accreditation Committee for NABH
- Member of Faculty Forum SGPGIMS.
- Managed E-OPD and E-CCS Duties as department representative
- Completed Basic Course in Bio Medical Research from ICMR
- Completed two week course in Emerging Trends in computer Science and I.T. (BVICAM Delhi)
- Appointed as Editorial Board Member for SGPGIMS , News Letter
- Multiple Research projects as PI/CO-PI

COVID related highlights

- All faculty are taking active role in the management of COVID 19 pandemic in the form of performing duties in the RCH 1 and 2.
- Member Data management Committee for COVID 19 Management -SGPGIMS
- Member RCH 2 Committee for HCW COVID management

Vision of the Department for the next 5 years.

- To create and develop “Advanced centre of excellence for burns”
- To apply for increase in seats of MCh from 1 to 3
- To make the department centre of excellence in treatment of craniofacial, cosmetic and reconstructive surgery
- To have an independent physiotherapy unit in the department
- Hand and microvascular surgery and otoplasty unit in the department

DEPARTMENT OF PULMONARY MEDICINE

STAFF

Name of Faculty Members:

1. Dr. Alok Nath
2. Dr. Ajmal Khan
3. Dr. Zia Hashim
4. Dr. Mansi Gupta

Residents/Students

DM: 4

PDCC-2

Hospital service senior resident:5

Departmental Activities

Patient Care Services

OPD	(a) Old Follow-up	4393
	(b) New Registration/ Admission	670/247

Investigations & Procedures

1. Pulmonary function testing:	891
2. Bronchoscopies:	353
3. Polysomnography:	37
4. EBUS:	34
5. Rigid Bronchoscopies and related procedures:	15
6. Thoracoscopy:	5

Referee/Reviewer of a Journal

Dr Alok Nath

- Lung India
- Indian Journal of Rheumatology

Dr. Ajmal Khan

- Chest
- Lung India

Dr. Zia Hashim

- Sleep and Vigilance
- Journal of Asthma
- Indian Journal of Rheumatology
- Lung India

- Current Pharmaceutical and Biotechnology

Research Projects

S. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction and Duration
1.	Assessment of Neurocognitive Dysfunction and Circadian Rhythm Sleep Disorder in Obstructive Sleep Apnea (OSA)	Dr Zia Hashim	SGPGI	Rs 500, 000	3 years
2	Evaluation of Eosinophilic Inflammation in Patients with Chronic Obstructive Pulmonary Disease	Dr Mansi Gupta	SGPGI	Rs 500, 000	2 years
3	Evaluation of Biochemical and Radiological Features predicting Pulmonary Fibrosis in Patients with COVID-19 Disease.	Dr Ajmal Khan	SGPGI	Rs 500, 000	2 years
4	Preventing adverse events in COPD	Dr Alok Nath	Indian Chest Society		
5	Role of P-Glycoprotein and Multidrug Resistance-Associated Protein-1 in Steroid Resistant Asthma	Dr Zia Hashim	ICMR	Rs, 3,50,000	4 years

Publications

Original Articles

1. Jain A, Singh H, Nath A, Chaturvedi S, Ajmani S, Misra DP, Agarwal A. Distinct T cell immunophenotypic signature in a subset of sarcoidosis patients with arthritis. Journal of the Royal College of Physicians (Edinburgh) 2020; 50:226-232.
2. Jindal SK, Aggarwal AN, Jindal A, Talwar D, Dhar R, Singh N, Singh V, Krishnaswamy U, Ravindran C, Nath A, Bhattacharyya P, Chaudhry D, Gupta P, Gupta ML, Koul PA, Swarankar R, Tripathi SK, Ghoshal A. Exacerbation rates are higher in chronic obstructive pulmonary disease in non-smokers in India. Int J Tuberc Lung Dis. (Accepted Manuscript)
3. Khan A, Agarwal A, Zafar Neyaz, Mohindra S, Nath A. Dual Airway and Esophageal Stenting in Advanced Esophageal Cancer with Lesions Near Carina. J BronchologyIntervPulmonol 2020; (4): 286 – 93

4. Khan A, Hashim Z, Gupta M, Lal H, Agarwal A, Nath A. Rigid bronchoscopic interventions for central airway obstruction – An observational study. *Lung India* 2020; 37:114-9.
5. Mishra R, Chaturvedi R, Hashim Z*, Nath A, Khan A, Gupta M, Singh H and Agarwal V, “Role of P-gp and HDAC2 and their Reciprocal Relationship in Uncontrolled Asthma”. *Current Pharmaceutical Biotechnology* (2020) 21: 1.
6. Nath A, Prashanth A, Lal H, Kumar S, Barai S, Gambhir S. Robotic assisted 18 F-FDG PET/CT guided biopsy for diagnosis of intrathoracic lesions: An experience from a tertiary care center in North India. *Nuc Med Comm.* 2020; 41(3):246-251.
7. Nath A, Rai MK, Hashim Z, Gupta M, Jana B, Agarwal V, Khan A. Prevalence of p-glycoprotein (PGP) expression, function and its effect on efficacy of Rifampicin in patients with lymph node tuberculosis. *Indian J Tuberculosis.* 2020;67:172 – 176.
8. Neyaz Z, Hashim Z, Kumar S, Nath A, Khan A, Mohendro N. Correlation of asthma severity, IgE level, and spirometry results with HRCT findings in allergic bronchopulmonary aspergillosis. *Indian J Radiol Imaging.* 2020 Apr-Jun; 30(2): 163–169.

Case Report

1. Nigam N, Hashim Z, Neyaz Z, Gupta M, Nath A. Inflammatory pseudotumor of the lung with complete resolution. *Lung India.* 2021 Jan-Feb;38(1):90-91. doi: 10.4103/lungindia.lungindia_71_20. PMID: 33402647.

Conference Presentations

Dr Alok Nath

- NAPCON 2020: False positive test in COVID

Dr Ajmal Khan

- NAPCON 2020: Workshop in Intervention Pulmonology

Dr Zia Hashim

- Post Exposure Prophylaxis in COVID Pneumonia

Dr Mansi Gupta

- NAPCON 2020: Workshop

Outstanding Features/Summary

The department of pulmonary Medicine came into being under PMSSY in July 2009 with an objective of providing quality care to patients attending this hospital and giving state of the art medical facilities which are not available in surrounding regions of Uttar Pradesh. Also, it aims at establishing new paradigms in areas of research. The department has been sanctioned four DM seats in 2020. The Department has been instrumental in providing COVID care.

COVID related highlights

1. During COVID epidemic, the Department provided active support by posting residents and faculty by rotation in COVID ICUs. Dr. Alok Nath is currently co-nodal officer along with Prof R.K. Singh (Nodal Officer). He also played an instrumental role in designing a protocol for the treatment of COVID 19 patients at SGPGI. He also used to participate in teaching and training of faculty at 52 medical colleges of the state. He is also participation in the Virtual round of

Rajdhani COVID hospital daily. Dr. Zia Hashim is the in charge of ICU-1 since 28-06-2020, Dr Ajmal Khan and Dr Mansi Gupta have done duty as faculty in COVID ICU.

2. Post COVID care: Major brunt of Post-COVID care is borne by the Department of Pulmonary Medicine. Patients are shifted to the Department after they test negative to COVID 19. Department has started various projects in the post COVID care. One MD thesis has also been started in Post COVID care.

Vision of the Department for the next 5 years

For sustained development and achievement of the goals, the department aims to start following services in coming five years:

Clinical activities:

1. Increase the capacity of general ward to at least 30 beds.
2. Upgrade the services of ICU by renovating the ICU with state-of-the-art new equipment for ICU viz.
 - a. New ICU ventilators and ICU pendants
 - b. Multiparametric monitors with central monitoring system
 - c. Extracorporeal membrane oxygenation
3. Separate OPD for management of lung cancer patients
4. Lung transplantation: Lung transplantation is the need of the hour for management of end stage lung diseases. It has been recently started for the first time in India in government set up at PGIMER Chandigarh. It needs collaboration with other departments specially department of CVTS and also creation of well-equipped transplant ICU dedicated for the same.
5. Pulmonary Rehabilitation: Management of chronic lung diseases cannot be complete without a fully functional rehabilitation center. The department aims at initiating this service soon, but this will require provision of separate space also along with various equipment.

Laboratory activities

1. Upgradation of bronchoscopy lab to a Modular OT Enabled Pulmonary Intervention Unit where all the therapeutic and diagnostic bronchoscopic procedures may be done in standalone fashion.
2. Addition of advanced bronchoscopy equipment to our armamentarium like:
 - a. Confocal laser scanning bronchoscope
 - b. Autofluorescence bronchoscopy
 - c. Bronchial Thermoplasty

Academic and research activities:

1. Research project in stem cell therapy for diffuse parenchymal lung diseases
2. MSc in Respiratory Technology

To achieve a seamless and streamlined management of all patients in our department we also aim to consolidate our services under one roof by proposing the approval for a separate *Advanced Pulmonary Centre*.

DEPARTMENT OF RADIODIAGNOSIS

STAFF 34 (Permanent) + 47 (Outsource)

Name of Faculty Members:

1. Dr. Sunil Kumar	Prof and Head
2. Dr. Archana Gupta	Professor
3. Dr. Hira Lal	Professor
4. Dr. Sheo Kumar	Professor
5. Dr. Zafar Neyaz	Additional Professor
6. Dr. Namita Mohindra	Additional Professor
7. Dr. Rajanikant R Yadav	Additional Professor
8. Dr. Vivek Singh	Additional Professor
9. Dr. Raghunandan Prasad	Associate Professor
10. Dr. Neeraj Jain	Assistant Professor
11. Dr. Surya nandan Prasad	Assistant Professor
12. Dr. Anuradasingh	Assistant Professor
13. Dr. Anil K Singh	Assistant Professor

Residents/Students

46 Residents:

27 Senior Residents (6 PDCC; 21 Hospital Services)

19 (Junior Residents)

Departmental Activities

The department offers all the diagnostic investigations and therapeutic procedures including Radiography, Sonography including Shear Wave Elastography, Intravenous pyelography, Barium studies, Mammography including Digital Tomosynthesis, Computed Tomography, Magnetic resonance Imaging, image-guided biopsies, Non vascular Interventional procedures and Digital Subtraction Angiography (DSA). These services are situated in the Main hospital building and also in PMSSY, New OPD and Apex Trauma Centre (RCH-I) Buildings. Besides clinical work, the department conducts courses as described below. Routine interdepartmental clinical meetings are held weekly/monthly. Six intra-departmental academic sessions are held per week.

Patient Care Services

New Registration Admission : 394

eOPD Calls : 290

Investigations & Procedures

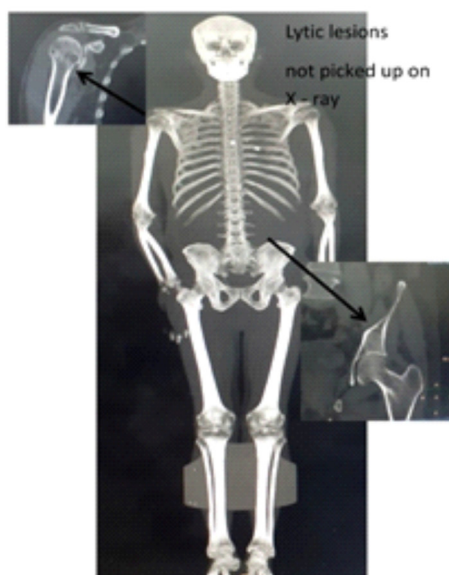
MRI (Dept + CBMRI)	3894
CT (CT1 + CT2 + PMSSY CT)	10072
Intervention	1412

Gastro (Barium Studies)	380
CR-Xray+Bed Side X-rays)	30659
DR- X-rays	8265
Uro-Investigations (IVP, MCU& RGU)	25
Ultrasound (OPDcase + IPD + New OPD)	16391
Doppler Ultrasound	2631
Mammography	714
DSA	795
Misc. (DSA)	255

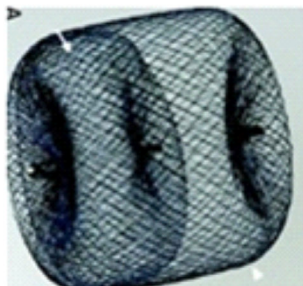
New Test Started in the Department

1. Whole body low dose CT for screening of multiple myeloma was established in 2020.

New Test Started in the Department:
- Whole body low dose CT for screening of multiple myeloma



2. New procedure of placement of a web device for treatment of intracranial aneurysms was performed for the first time at SGPGI in 2020.



WEB DEVICE



Pictorial display of deployed web device



Pre - and Post Deployment

3. 3D printing model from DICOM data of CT images- ZafarNeyaz

Teaching and Training

Besides clinical services, the department runs MD (Radiodiagnosis) course, PDCC in three different subspecialties (Gastro, Vascular and Neuroradiology), and B Sc in Radiodiagnosis and Imaging Technology. No visiting professor could be invited due to Covid pandemic. One short term trainee attended the department for interventional procedures in early 2020.

Honors& Awards

1. Dr Archna Gupta was elected President of Telemedicine society of India (STATE CHAPTER UP)

Member of Editorial Committee

1. Raghunandan Prasad-Member, Editorial Board for International journal of Wellness

Reviewer of a Journal

Dr. Sunil Kumar

- Academic Radiology
- Journal of Neuroimaging- Sunil Kumar

Dr. Archna Gupta

- Indian journal of Surgery

Dr. Hira Lal

- Indian Journal of Medical Research
- *BMJ Case Reports*
- Polish Journal of Radiology

Dr. Zafar Neyaz

- Indian Journal of Radiology and imaging
- Lung India

Dr. Namita Mohindra

- Neurology India-
- Journal of Clinical Imaging Science
- International Journal of Telemedicine and Applications

Dr. Vivek Singh

- Neurology India

Dr. Rajanikant Yadav

- The Cureus Journal of Medical Science-

Dr. Raghunandan Prasad

- Indian Journal of Transplantation
- BMC Infectious Diseases

Dr. Neeraj Jain

- BJR case reports
- Journal of clinical and diagnostic research
- Journal of Gastroenterology and Hepatology
- Journal of Gastrointestinal and Abdominal Radiology

Dr. Surya Nandan Prasad

- Reviewer in Neurology India journal

Research Projects

S. No	Title of Project	Name of PI	Funding Agency	Amount	Date of Sanction & Duration
1	Design and Development of Detection kit and Detection App for Prostate Cancer	Dr. HiraLal (Radiology)	Indian Council of Medical Research, New Delhi	Rs. 1700000	18.06.2020 03 years
2	Safety and Efficacy of Lipiodol ultra fluid in association with surgical Glues during vascular Embolization of peripheral vascular malformations (Phase IV study)	Dr Raghunandan Prasad Co PI Rajanikant Yadav	Gurbet, France	No Fixed amount, based on real expenditure on patient treatment.	Sanction Date: Sep-2018, And Till Dec-2021
3	Renal fibrosis - correlation among histomorphometry, urinary Biomarkers and shear wave elastosonography.	PI- Dr Manas Ranjan Behra, (Nephrology) Co-PI- Dr Raghunandan Prasad; Dr Hira Lal	ICMR Adhoc Project (Project Code- 5/4/74/2019/ NCD-II)	50 Lakh	No Fixed duration, Started on 01-10-2019
4	Safety and Efficacy of Transarterial chemoembolization with Lipiodol ultra fluid in the treatment of inoperable Hepatocellular Carcinoma (HCC) in Indian Patients (Phase IV study).	PI- Dr Rajanikant R Yadav Co.PI- Dr Raghunandan Prasad	Gurbet, France	No Fixed amount, based on real expenditure on patient treatment.	Ethical Approval obtained. CTA finalization under processing.
5	Skin assessment in Scleroderma by Ultrasound and Shear wave Elastography- a clinical, histological and imaging study.	PI Dr Namita Mohindra (Radiology)	Intramural	3.5 lakhs	July 2019

Publications

Original Articles

1. Awasthi S, Rastogi T, Mishra, Mishra N, Chauhan A, Mohindra N, Shukla RC, Agarwal M, Pandey CM, Kohli N, CAP Study Group. Chest radiograph findings in children aged 2-59 months hospitalised with community-acquired pneumonia, prior to the introduction of pneumococcal conjugate vaccine in India: a prospective multisite observational study. *BMJ Open* 2020;10:e034066. doi: 10.1136/bmjopen-2019-034066.
2. Gunna S, Neyaz Z, Bhatia E, Marak RS, Mishra R, Verma R. Results of Percutaneous Computed Tomography-Guided Biopsy of Adrenal Lesions and Spectrum of Computed Tomography Findings. *J Clin Imaging Sci.* 2020; 10: 16
3. Israrahmed A, Singh S, Boruah DK, Yadav RR. Glue embolization of adrenal artery pseudoaneurysm: Case series with review of literature embolization of adrenal artery pseudoaneurysm. *J Clin Imaging Sci* 2020;10:20.
4. Lal H, Singh P, Yadav P, Singh A, Singh UP, Sureka SK, Kapoor R. Role of preoperative MR volumetry in patients with renal cell carcinoma for prediction of postoperative renal function after radical nephrectomy and nephron sparing surgery. *IntBraz J Urol.* 2020 Mar-Apr;46(2):234-241. doi: 10.1590/S1677-5538.IBJU.2019.0217. PMID: 32022512; PMCID: PMC7025851.
5. Lal H, Singh RKR, Yadav P, Yadav A, Bhadauria D, Singh A. Non-contrast MR angiography versus contrast enhanced MR angiography for detection of renal artery stenosis: a comparative analysis in 400 renal arteries. *AbdomRadiol (NY).* 2020 Nov 2. doi: 10.1007/s00261-020-02836-5. Epub ahead of print. PMID: 33136181
6. Neyaz Z, Hashim Z, Kumar S, Nath A, Khan A, Mohindra N. Correlation of asthma severity, IgE level and spirometry results with HRCT findings in allergic bronchopulmonary aspergillosis. *Indian J Radio Imag* 2020;30:163-169.
7. Phadke RV, Singh V, Balaguruswamy MM, Udiya A, Shetty GS, Prasad SN, Mittal S, Chauhan G, Dhull V, Neyaz Z. Getting more out of follow-up three-dimensional time-of-flight magnetic resonance angiography in endovascularly treated intracranial aneurysms. *Asian Journal of Neurosurgery.* 2020 Oct 1;15(4):889.
8. Prasad R, Choudhary R, Singh A, Agarwal S, Kaushik P, Singh K, Yadav A S, Yadav RR, Bhadauria DS, Lal H. Serum levels of Neutrophil gelatinase-associated lipocalin (sNGAL), Kidney injury molecule-1 (sKIM-1), Cystatin-C (sCys-C) in renal artery stenosis - A Pilot Study: *Indian Journal of Rheumatology.* 2020;15:317-22 ,DOI: 10.4103/injr.injr_163_20.
9. Prasad R, Israrahmed A, Yadav Rajanikant R, Singh S, Behra M R, Khuswaha RS, Prasad N, Lal H. Endovascular embolization in problematic hemodialysis arteriovenous fistulas: A nonsurgical technique. Year : | Volume:XX | Issue Number: XX | Page: -XX DOI: 10.4103/ijn.IJN_84_20
10. Prasad R, Yadav RR, Israrahmed A, Mittal SR. (2020). Endovascular Management in Post Liver Transplant Recipients with Venous Anastomotic Site Stenosis and an Associated Iatrogenic Arterio-portal Fistula: Case Series and Review of Literature, 14(5), TR01- TR04. <https://www.doi.org/10.7860/JCDR/2020/44144/13711>.
11. Prasad SN, Singh V, Boruah DK, Phadke RV, Sharma K, Kannaujia V. Endovascular Management of Direct Carotid-Cavernous Fistula: Evolution of Cost Effective Sandwich Technique. *J Neurosci Rural Pract* 2020;11(04):558-564 DOI: 10.1055/s-0040-1714447
12. Singh V, Phadke RV, Agarwal V, Behari S, Neyaz Z, Chauhan G. Posterior cerebral artery aneurysms: Parent vessel occlusion being a viable option in era of flowdivertors. *Neurology India.* 2020 | 68 | 2 | Page: 316-324.

13. Tiwari P, Kumar S, Mishra P, Jain R, Mohindra N, Gupta A, Keshri A. Role of High-Resolution CT and MRI in Predicting the Degree of Difficulty in Patients undergoing Cochlear Implant Surgery: An Institutional Experience. August 2020. *Annals of Otology and Neurotology*. DOI: 10.1055/s-0040-1715552
14. Yadav U, Singh V, Bhargava N, Srivastav AK, Neyaz Z, Phadke RV, Mishra P. Lumbar Canal Diameter Evaluation by CT Morphometry—Study of Indian Population. *International Journal of Spine Surgery* April 2020, 14(2) 175-181; DOI: <https://doi.org/10.14444/7028>.

Case Reports

1. Agarwal S, Chaturvedi P, Yadav P, Lal H. Tobacco pouch appearance: HSG sign of tubercular salphingitis. *AbdomRadiol (NY)*. 2020 Sep 28. doi: 10.1007/s00261-020-02781-3.
2. Agarwal S, Dey M, Yadav P, Lal H. Adrenal extramedullary haematopoiesis: an unusual incidentaloma. *BMJ Case Rep*. 2021 Jan 11;14(1):e238572. doi: 10.1136/bcr-2020-238572.
3. Agarwal S, Doctor M, Ruidas S, Lal H. Cystic lymphangioma of breast: a rare presentation. *BMJ Case Rep*. 2020 Apr 26;13(4):e235040. doi: 10.1136/bcr-2020-235040.
4. Banthia R, Yadav P, Agarwal R, Lal H. Plexiform neurofibromatosis of penis: a rare presentation of type 1 neurofibromatosis. *BMJ Case Rep*. 2020 Nov 17;13(11):e236542. doi: 10.1136/bcr-2020-236542.
5. Banthia R, Yadav P, Bharti A, Lal H. Mature cystic teratoma presenting as suprarenal mass. *BMJ Case Rep*. 2020 Aug 25;13(8):e237734. doi: 10.1136/bcr-2020-237734..
6. Danish N, Ansari MS, Lal H, Yadav P. Urethral Duplication With Heterotopic Colonic Epithelium Presenting as Penoscrotal Mass: A Rare Association. *Urology*. 2020 Aug;142:200-203. doi: 10.1016/j.urology.2020.04.050.
7. Gautam AD, Jain S, Ravi Sankar M, Jain N. Primary synovial sarcoma of parotid gland with intravenous extension into the heart. *BJR Case Rep* 2020; 6: 20200080.
8. Israrahmed A, Singh S, Lal H, Jain M. Primitive neuroectodermal tumour (PNET) of the renal capsule mimicking solid adrenal tumour. *BMJ Case Rep*. 2020 Oct 4;13(10):e235484. doi: 10.1136/bcr-2020-235484.
9. Jain N, Bhargava M, Puri SK. (2020). Haemangioma of Cavernous Sinus- A Case Series, 14(12), TR01-TR04. <https://www.doi.org/10.7860/JCDR/2020/45592/14357>
10. Kumar N, Singh UP, Lal H, Sureka SK. Testicular seminoma with large direct iliac nodal metastasis: unusual presentation. *BMJ Case Rep*. 2020 Jun 30;13(6):e236702. doi: 10.1136/bcr-2020-236702.
11. Kumar N, Srivastava A, Mishra N, Lal H. Idiopathic spontaneous extensive ilio caval thrombosis presenting with renal infarct. *BMJ Case Rep*. 2020 Jun 30;13(6):e234957. doi: 10.1136/bcr-2020-234957.
12. Kumar N, Yadav P, Ansari MS, Lal H. Surgical management of giant retroperitoneal lymphangioma in a child. *BMJ Case Rep*. 2020 Feb 13;13(2):e234447. doi: 10.1136/bcr-2020-234447.
13. Lal H, Yadav P, Dey M, Jain M. Rare case of focal mass like perirenal extramedullary haematopoiesis in a renal transplant recipient. *BMJ Case Rep*. 2020 Jul 16;13(7):e235224. doi: 10.1136/bcr-2020-235224.
14. Singh AK, Ranjan R. A Case of ADPKD with Associated Extra-renal Abnormalities. *International Journal of Scientific Research* 2020; 9(7):76-77

15. Singh AK, Ranjan RS. SAPHO syndrome: A radiological case report. Indian J Radiol Imaging 2020;30:84-8.

Book chapters

1. Neyaz Z, Mohindra N. Magnetic Resonance Imaging for intracranial neoplasms: which sequences to employ? In: Behari S (Ed). The operating atlas of Neurosurgery, Volume II, A compendium of 120 neuro-oncological, case-based, Surgical approaches. Thieme, 2020
2. Priyadarshi Dikshit, Suyash Singh, Surya Nandan Prasad, Vivek Singh Angiography in Neuro-Oncology. Book name: The Operative Atlas of Neurosurgery, Volume II (Thieme Medical and Scientific Publishers Pvt. Ltd.)
3. Anil Kumar Singh. Radiological Perspectives of Covid-19. In: Shamsheery C, ed. Covid 19 – A Ready Reckoner. Indian Society of Anaesthesiologists (Lucknow Chapter). 2020.

Conference Presentations

1. Zafar Neyaz: “Linear & reticular opacities on HRCT thorax” in SCII interstitial lung diseases certification course for radiologists and radiology residents on 29th August 2020.
2. Zafar Neyaz: “Diffuse parenchymal lung disease (DPLD): Role of HRCT” organized by Dept. of TB & Chest, Kolkata Medical College at 21 Feb 2020, Kolkata.
3. Namita Mohindra : Participated as faculty in Surgical Neuro-oncology update at SGOI from 28 Feb – 1 March 2020.
4. Vivek Singh: SSS DAVF – how to approach in STNI annual conference held at Kolkata between 6th -9th Feb 2020.
5. Raghunandan Prasad : “Current approach to the diagnosis and treatment of femoropopliteal arterial disease” in a CME conducted by Delhi state chapter of ISVIR on 23rd Feb.2020 at Safdar Jung Hospital, New Delhi
6. Raghunandan Prasad : “Endovascular interventions in AV Fistula” in March-2020, during lock down due to COVID-19.
7. Raghunandan Prasad: “Endovascular management of peripheral high flow vascular malformations” in a webinar on ‘Current Concepts in the Management of Difficult Vascular Anomalies organized by department of plastic surgery of our institute in June -2020.
8. Neeraj Jain: Cardiovascular Imaging Spotters in IRIA ICRI IREP Online 2020 -Oct 2020
9. Surya Nandan Prasad: “Acom aneurysm coiling - Stretched coil removal using snare over coiling Microcatheter” in - ISVIR Virtual Mid Term CME 2020 – complication management on 18/10/2020.

Workshop/ Conferences Organized

1. CME on Radiological Imaging for Technologists, conducted at SGPGIMS, Lucknow on 23rd Feb 2020.
2. Webinar on ‘Hemodialysis Access Management’ in June -2020.

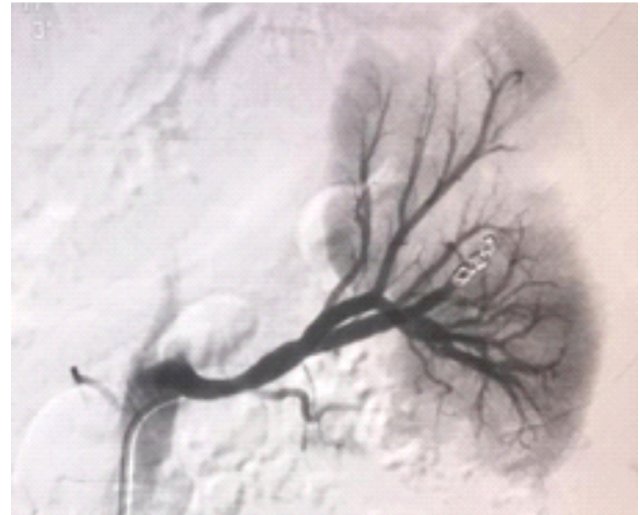
COVID related highlights

The department provided the 24-hour radiological services at RCH. For this, Faculty, Residents, technicians were posted in rotation for doing the studies and for their interpretation. Approximately 7500 plain radiographs and 900 CTs were done in RCH. Approximately 300 sonography studies and about 60 interventional procedures were performed in Covid Hospital.

One DSA was carried out in the Main department of a Covid positive patient who had severe hematuria. Patient was a 38Y/M with left renal calculus, managed by left mini PCNL outside, Post PCNL patient developed gross hematuria. In the meantime, he also tested positive for COVID-19, so he was referred to our Rajdhani COVID Hospital. He was evaluated by urology team and referred for management of hematuria. Patient was taken for DSA taking all the precautions for COVID-19 and managed by super selective coil embolization of AVF and pseudoaneurysm.



A



B

Figure : (A) Baseline DSA shows the Pseudoaneurysm and Arteriovenous fistula and Post Embolization (B) study shows non filling of the pseudoaneurysm and vein.

In addition, most of the faculty members were posted for clinical ward duties in the RCH. Residents also did clinical duties in the RCH as well as at T2 level postings.

Academic activities were also conducted via on-line conference and Quiz organized for Technicians. The details are as following:

“Tech Aspire Web Connect”

- Theme: Radiological Guidelines on COVID-19 on 16th August 2020
- Quiz Related To Covid 19 In Perspective To Radiology Technicians. Quiz conducted by Dr Archana Gupta 2nd OCT 2020

Presentations in ECCS

- Image Diagnosis of Covid -19 Dr Archana Gupta 24th June 2020
- Radiological finding in extra-pulmonary manifestation of COVID 19 Archana Gupta 19th August 2020.

Vision of the Department

The department is making efforts to start DM course in Neuroradiology. Fresh proposals to begin new DM/PDCC courses will be made. Another main focus is to acquire the state of the art equipment systems to aid in the clinical, research and training services.

DEPARTMENT OF RADIOTHERAPY

Staff

Total = 74

(Regular = 27, Temporary/Contractual = 47)

Faculty

7

Residents/Students

Senior Residents = 7; Junior Residents = 11

Medical Physics Resident = 3, Medical Technology Students = 7

Departmental Activities

Teaching & Training of MD students (Junior Residents), Senior Residents, Medical physics residents and students of medical technology. Every day morning seminar 8 AM to 9 AM, Ward round and bed side teaching 9.30 AM to 11 AM. Tumour contouring and computerised treatment planning 9.30 AM to 5 PM daily

Patient Care Services

OPD

Radiotherapy OPD (New & Follow up) 5 days per week (Mon to Friday)

Review of patients on Radiotherapy: 5 days per week (Mon to Friday)

1. (a) Old Follow-up : 7698 (Jan 20 – Dec 20)
2. (b) New Registration : 1540 (Jan 20 – Dec 20)
3. (c) Admission : 1001

Investigations & Procedures

1. Radiotherapy on Linear Accelerator 1 (LA1) = 357
2. Radiotherapy on Linear Accelerator 2 (LA2) = 575
3. RTP CT Scan = 986
4. Simulator Planning = 40
5. Brachytherapy = 106
6. Chemotherapy (Day Care) = 2714

Honours & Awards

1. Dr. Neeraj Rastogi got the Top Poster Abstract Award in Research at Asian Oncology Society at Manila Philippines on November 27 – December 2nd, 2020.
2. Dr. Shalini Singh as Faculty at 4th AROI ESTRO GYN Teaching Course titled “ 3D Radiotherapy with a special emphasis on implementation of MRI /CT based brachytherapy in cervical cancer” 3-7th March 2020 organised by Dept of Radiation Oncology, TMH, Mumbai
3. Dr. Shalini Singh as Chairperson in RADONC Conclave 2020 UP & UT in Webinar on Prostate cancer in organized by Action Cancer Hospital, Delhi and RMLIMS, Lucknow on 17th July 2020.

4. Dr. Shalini Singh as Faculty in PRODVANCE on Radiosurgery Masterclass organized by RR Hospital, Delhi under aegis of Indian college of Radiation Oncology 2020.
5. Dr. Shagun Mishra got the Best Research Paper Award in Associate Professor (Medicine) Category on 1st Research Day at SGPGIMS.
6. Dr. Shagun Mishra got the Honour of ESMO Leaders Generation Programme 2020

Referee/Reviewer of a Journal

Dr. Punita Lal

Reviewer for the manuscripts publication in the following Journals

- Clinical Oncology
- Indian Journal of Surgery
- Future Oncology
- Indian Journal of Medical Research
- Journal of Medical Biography

Dr. Neeraj Rastogi

- Reviewer for the manuscripts publication in “Journal of Cancer Research and Therapeutics” in 2020-2021.
- Reviewer for the uro-oncology manuscripts publication in Indian Journal of Urology in 2020-2021.

Dr. Shalini Singh

Reviewer for the manuscripts publication in the following Journal

- ESGO_ESTRO_ESP Endometrial Cancer Guidelines by European Society of Gynecological Oncology
- The British institute of Radiology
- World Journal of Surgical Oncology
- Journal for Surgery and Surgical Research

Dr. Shagun Misra

Reviewer for the manuscripts publication in the following Journal

- Breast Cancer Research and Treatment
- Cancer Reports
- Clinical Oncology
- Journal of Medical Physics

Member of Editorial Committee

1. Dr. KJ Maria Das was appointed as member of Editorial Committee of Journal of Medical Physics (JMP) and International Journal of Medical Physics, Clinical Engineering and Radiation Oncology (IJMPCERO)

Publications

1. Agrawal S, Alam MN, Rastogi N., Saxena R. Evolution of Adjuvant Therapy in Radically Resected Carcinoma Gallbladder Over a Decade: A Real-World Experience from a Regional Cancer Centre. *EMJ Oncol.* 2020;8[1]:55-56.
2. Agrawal S, Raza W, Lal P, Maria Das KJ, Agarwal G. Post-chemotherapy target volumes are safe as boost volume for intact breast radiotherapy in locally advanced breast cancer. *RepPract Oncol Radiother.* 2020 Mar-Apr;25(2):266-270.
3. Agrawal S, Saxena R. Extended Field Postoperative Radiotherapy (EFRT) Yields better Outcomes as Compared to Localised Field RT (LFRT) in Radically Resected Gallbladder Cancer (GBC). *Asia Pacific Journal of Cancer Care.* 2020, 5 (4), 287-293
4. Ahmad F, Misra S, Pant S, Maria Das KJ, Kumar S. P-295 Patterns of failure following neoadjuvant and definitive radiation strategies in carcinoma thoracic esophagus: Do we need to rethink targets?. *Annals of Oncology* 31:S186, July 2020, DOI: 10.1016/j.annonc.2020.04.377
5. Asim A, Awasthi KK, Surekha S, Rastogi N, Dean Delsa D, Agarwal S. Investigation of LOY in Prostate, Pancreatic and Colorectal cancers in males : A case control study, *Expert Review of Molecular Diagnostics.* 2020
6. Bichoo RA, Yadav SK, Mishra A, Lal P, Chand G, Agarwal G, Agarwal A, Mishra SK. Fungating Breast Cancer: Experience in Low and Middle Income Country. *Indian J Surg Oncol.* 2020 Jun; 11(2):281-286.
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11. F Ahmad, S Misra, S Pant, S Singh, R.K. Singh, K J Das, S Kumar. Patterns of failure following neoadjuvant and definitive radiation strategies in carcinoma thoracic esophagus: Do we need to rethink targets? (abs.) *Annals of Oncology* 31, S186-S186 presented at World Congress on Gastrointestinal Tumors 2020
12. Gupta PK, Yoganathan SA, Maria Das KJ. Kumar S. Comparison of Static Conformal Beam and Intensity Modulated Radiation Therapy for Intracranial Stereotactic Radiosurgery. *Journal of Clinical and Diagnostic Research* 14(3), March 2020, DOI: 10.7860/JCDR/2020/43609.13566
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Workshop/ Conferences Organized

1. Dr. Sushma Agrawal Organised a Webinar entitled “ SGPGI Colorectal Cancer Update” on 30.8.20 attended by 200 participants.

COVID related highlights

1. Dr. Neeraj Rastogi Member of Quarantine Kitchen Committee
2. Dr. Shagun Misra Member of Duty roster Committee of Covid area
3. All Radiotherapy Faculty attended online consultation- ECCS duties
4. All Radiotherapy Faculty called cancer patients telephonically under their care who were scheduled for OPDs during Covid times and gave telephonic consultations.
5. Radiotherapy Department carried OPD services, radiation treatment including brachytherapy, palliative care and chemotherapy for cancer patients during Covid pandemic.
6. All Radiotherapy Faculty done Covid duty at Rajdhani Covid Hospital.

Vision of the Department for the next 5 years

1. The department is actively involved in conducting audits, in the past, in various sites to improvise clinical care and direct hypothesis for conducting prospective work. Often times, they have been practice changing. Apart from prospective work, the department remains committed to continue carrying out such audits as a continuum towards the process of evolution. There is also ongoing work on prospective collection of patient reported outcomes presenting to the Radiotherapy clinic.
2. Interested faculty has lately been involved in the development of software for paperless workflow in the department, archiving patients treated in the past. This will be a major game changer in department functioning and will also facilitate data capture for the Cancer registry program. A successful implementation might provide a template for the Institute to move in the direction of paperless Institute, sometime in future.
3. The department motto, from the time of inception, has been towards precision radiotherapy. New equipment/ techniques have always gone through a QA protocol and an attempt has been to ask research question(s) at the time of introduction of a clinical service. Currently, Stereotactic program has been initiated for treating brain and lung and liver tumors. Faculty is presently studying the nuances and the doability in our patients. Related question would subsequently be dealt with. We also plan State of Art breast radiotherapy practice.
4. Hospital based cancer registry has been functioning since 2016. It provides epidemiological insights, temporal trends, and potential for prospective work. Additionally, a registry data can be effectively utilized by the administrators and policy makers to channelize public funds in the correct direction in cancer care. It is a long term mandate to capture maximal and detailed information of cancer patients visiting SGPGI (a tertiary care institute that caters to all ailments and not just cancer alone) for the abovementioned reasons.
5. Advanced cancer patients are unable to come to a hospital for a variety of reasons. They need symptom based palliative care to provide comfort during the last phase of their life. Ideally, this care needs to be provided at bedside. However, lack of facilities and awareness amongst decision makers and patients alike, has kept end of life palliative care beyond the reach for most patients. The dire need has been recognized in southern states but in the state of Uttar Pradesh, we seem to be a long way off. The palliative cancer care team has a long term commitment to augment palliative care services in our state, and to study the cost effective strategies that are possible at a local level.

6. Medical Physics is an integral and indispensable part of any Radiation oncology department across the world. The team deals with radiotherapy planning and working of the equipments of a department. They have in the past, been collaborating with the renowned institution in the vicinity namely IIT Kanpur to study QA related research. To take it further, they plan to indulge in collaborative and innovative projects, in the same direction, with a like minded team over there.
7. Telemedicine for improvisation of tele-followup is increasingly being recognized. Not all patients need to pay a visit to the hospital each time. In select situations, it is preferable to use technology and connect, since it saves time, money and effort. However such a consultation has its own issues that need to be studied and answered. Given the likely benefit, it is fortunate that a faculty is keen on initiating a Tele follow up program and study its doability, quantify the gains and look into the implications of such consults.
8. Brachytherapy is an integral part of the Radiation oncology training. Over the past few decades, a distinct decline has been witnessed, until the introduction of Image based brachytherapy. The nuances of Image based brachytherapy need to be studied at the time of implementation of the program in any department. Faculty from the department plan to study the physics and clinical aspects of these issues and aims to promote the utility of image guidance in brachytherapy.
9. Radiotherapy department also planning to develop a Liver Stereo Tactic body radiotherapy (SBRT) programme and also trying to use the artificial intelligence for predicting outcomes in oesophageal cancers.

DEPARTMENT OF SURGICAL GASTROENTEROLOGY & CHBDT

STAFF

Name of Faculty Members:

Professors 04

Additional Professors 02

Assistant Professors 02

Residents: 10 MCh Seats per year.

24 MCh residents, one post-MCh Senior Resident, 2 Hospital Senior Residents.

Departmental Activities:

OPD

- | | | |
|--------------------------|---|------|
| 1. Old Follow-up | : | 5017 |
| 2. New Registrations | : | 676 |
| 3. Admissions/discharges | : | 934 |
| 4. Operative Procedures | : | 607 |

Teaching and Training:

- 10 MCh Seats per year
- Short Training Observership; 8 DNB students (4 from SGRH New Delhi and 4 from Apollo Hospitals Chennai, visited the department as short term observers.
- Visiting Professor – Nil

Honours and Awards:

- The Liver Week (Korea)** : Foreign investigator award:
- Dr. Rohit Dhawan (3rd year Mch)
- Dr. Nalinikant Ghosh (3rd year Mch)

HBP surgery week (Korea): Foreign investigator award:

- Dr. Mukteswar (2nd year Mch),
- Dr. Krishna Rau (2nd year Mch)
- Dr. Rohit Dhawan (3rd year Mch),
- Dr. Nalinikant Ghosh (3rd year Mch).

TYSA award: Third rank: Dr.Nalinikant Ghosh (3rd year Mch)

Members of Editorial Committee:

Reviewer for

Prof. R. Saxena	BMJ Case Reports Asian Journal of Transfusion Medicine Journal of Clinical and Experimental Hepatology Indian Journal of Medical Research Indian Journal of Gastroenterology Indian Journal of Surgery Indian Journal of Cancer Tropical Gastroenterology Indian Journal of Transplantation
Dr. Ashok Kumar	Editor, Canadian Journal of Gastroenterology and Hepatology (Special Issue) Associate Editor, J Pancreatic Cancer Indian Journal of Surgery Annals of Coloproctology World J of Gastrointestinal Surgery Current Cancer Drug Target Reviewer- World Journal of Gastroenterology ANZ journal of Surgery AMS Indian Research Journal of Surgery BMJ case report Hindwani Publication Journal of Interventional Radiology BMC Cancer Case report in Surgery
Dr. Anu Behari	Indian Journal of Surgery Journal of Gastroenterology and Hepatology BMJ Case Report
Dr. Rajneesh K Singh	Journal of Gastro Intestinal Surgery Journal of Gastroenterology and Hepatology National medical journal of India Tropical Gastroenterology Indian Journal of Surgery Indian journal of Surgical Oncology

Research Projects:

5. Gravity dependent and hand held 'push' injection method of cholangiography: A comparison of outcomes and efficacy. PI: Rajan Saxena. Funding Agency: None.
6. Liver Resections for Benign Biliary Strictures. PI: Rajan Saxena. Funding Agency: None.
7. Continuous versus interrupted suture hepaticojejunostomy – safety and economics. PI: Rajan Saxena. Funding Agency: None.
8. Role of mitochondrial dynamic related proteins (Fusion and fission proteins) in north Indian colorectal patients. PI: Ashok Kumar. Funding Agency: SGPGI Intramural.
9. Investigation of mitochondrial dynamic related proteins (Fusion and fission proteins) and enzyme phosphatase calcineurin in north Indian colorectal patients. PI: Ashok Kumar. Funding Agency: None.
10. Deciphering the Role of Mitochondrial Quality Control in Colorectal Cancer Progression: A Potential therapeutic approach. PI: Ashok Kumar. Funding Agency: None.
11. Factors Affecting the QOL after stoma: A study on north Indian patients. PI: Ashok Kumar. Funding Agency: None.
12. Role of ki 67 index in colorectal cancer. PI: Ashok Kumar. Funding Agency: None.
13. Role of serum CRP, interleukin 6 and Serum albumin as predictors of anastomotic leak in colorectal surgery. PI: Ashok Kumar. Funding Agency: None.
14. Serum microRNA panel as a potential biomarker for early diagnosis of gall bladder cancer- a step towards personalized prevention. PI: Anu Behari. Funding Agency: DBT. Grant Amount: Rs. 48 Lakh.
15. Metagenomics of microbial communities in gallbladder bile from patients with gallbladder cancer or cholelithiasis and verification of bacterial infection history. PI: Anu Behari. Funding Agency: None.
16. Incidental gall bladder cancer/premalignant gall bladder and gall bladder carcinoma a multicentric study. PI: Anu Behari. Funding Agency: National Center for Disease Informatics and Research. Grant Amount: Salary for staff in cancer registry.
17. Unconventional shunts in EHPVO-Friends in need! PI: Anu Behari. Funding Agency: None.
18. Surgical obstructive jaundice: a surrogate marker of advanced disease in gallbladder cancer. PI: Anu Behari. Funding Agency: None.
19. Predictors of long-term (more than 5-years) survival in gallbladder cancer. PI: Anu Behari. Funding Agency: None.
20. Splenectomy without porto-systemic shunt in EHPVO- is it enough? PI: Anu Behari. Funding Agency: None.
21. Predictors of shunt thrombosis in EHPVO. PI: Anu Behari. Funding Agency: None.
22. Database creation for computational predictive analysis of treatment response assessment in Esophageal cancer patients in India. PI: Rajneesh K Singh.
23. A Study of Long-Term Outcomes of Surgery For Corrosive Esophageal Strictures-Comparison of Colon Versus Gastric Conduit Reconstruction. PI: Rajneesh K Singh. Funding Agency: None.
24. A retrospective study of Non-functional Pancreatic Neuro-endocrine tumours (NF-pNET)-Our experience. PI: Rajneesh K Singh. Funding Agency: None.
25. Benign Tracheo-esophageal fistula in adults-Our experience. PI: Rajneesh K Singh. Funding Agency: None.
26. Retroperitoneal lymph node metastasis in gallbladder cancer: as bad as distant metastasis. PI: Ashish Singh.

27. To evaluate the role of cell free DNA in Gall bladder cancer as a diagnostic and prognostic biomarker. PI: Ashish Singh. Funding Agency: SGPGI Intramural. Grant Amount: Rs.4.85 Lacs.
28. Determinants of curative resection in incidental gallbladder carcinoma with special reference to timing of referral. PI: Rahul. Funding Agency: None.
29. A questionnaire based study on quality and adequacy of clinical communication between physicians and family members of COVID-19 patients. PI: Rahul. Funding Agency: None.

Publications:

1. Extended Field Postoperative Radiotherapy (EFRT) Yields better Outcomes as Compared to Localised Field RT (LFRT) in Radically Resected Gallbladder Cancer (GBC) Sushma Agrawal, Rajan Saxena DOI:10.31557/APJCC.2020.5.4.287 Asian Pacific Journal of Cancer Care 2020, Vol.5, No. 4, p. 287-293
2. Sharma S, Behari A, Shukla R, Dasari M, Kapoor VK. Bile duct injury during laparoscopic cholecystectomy: An Indian e-survey. Ann Hepatobiliary Pancreat Surg. 2020 Nov 30;24(4):469-476. doi: 10.14701/ahbps.2020.24.4.469. PMID: 33234750; PMCID: PMC7691207.
3. Roy MK, Pipara A, Kumar A. Surgical management of adenocarcinoma of the transverse colon: What should be the extent of resection? Ann Gastroenterol Surg. 2020 Jul 26;5(1):24-31. doi: 10.1002/ags3.12380. PMID: 33532677; PMCID: PMC7832969.
4. Sharma A, Sharma KL, Bansal C, Kumar A. Updates on "Cancer Genomics and Epigenomics". World J Clin Oncol. 2020 Nov 24;11(11):890-897. doi: 10.5306/wjco.v11.i11.890. PMID: 33312884; PMCID: PMC7701914.
5. COVID-19 And Psychological Disaster Preparedness – An Unmet Need. Vishwesh Agarwal, Supriya Sharma, Latika Gupta, Durga Prasanna Misra, Samira Davalbhakta, Vikas Agarwal, Ashish Goel, Shelley Aggarwal. Disaster Medicine and Public Health Preparedness 2020 Jun;14(3):387-390 DOI: 10.1017/dmp.2020.219
6. Aneurysms of pancreaticoduodenal arcade—clinical profile and endovascular strategies. Supriya Sharma, Raghunandan Prasad, Archana Gupta, Pranav Dwivedi, Samir Mohindra, Rajanikant R Yadav. Journal of Gastroenterology Hepatology Open.2020 Jul 8;4 (5): 923-928. DOI:10.1002/jgh3.12365
7. Indigenous primary culture protocols for human adult skin fibroblast, pancreatic stellate cells, and peritoneal fibroblasts. Supriya Sharma, Gaurav Pande, Mohit Kumar Rai, Durga Prasanna Misra. Indian Journal of Rheumatology, 2020 0;0:0
8. The Convergence of Fibrosis and Immune Pathways: 5-HT₂ and 5-HT_{2B} Antagonists Attenuate Profibrotic Phenotype in Human Pancreatic Stellate Cells by Modulating Signal Transducer and Activator of Transcription 3 Phosphorylation. Supriya Sharma, Gaurav Pande, Mohit Kumar Rai, Durga Prasanna Misra, Latika Gupta, Vikas Agarwal. Indian Journal of Rheumatology, 2020 0;0:0
9. Private Health Sector in India-Ready and Willing, Yet Underutilized in the Covid-19 Pandemic: A Cross-Sectional Study. Samira Davalbhakta, Supriya Sharma, Shefali Gupta, Vishwesh Agarwal, Gaurav Pandey, Durga Prasanna Misra, Bijaya Nanda Naik, Ashish Goel, Latika Gupta, Vikas Agarwal. Front Public Health. 2020 Oct 16;8:571419 DOI: 10.3389/fpubh.2020.571419. eCollection 2020
10. Rahul, Verma A, Yadav P, Sharma VK, Sanjeev OP. Non-COVID Surgical Emergency During the Nationwide Lockdown due to Corona Pandemic: a Critical Appraisal [published online ahead of print, 2020 Aug 10]. Indian J Surg. 2020;1-5. doi:10.1007/s12262-020-02549-5

11. Rani AK, Agarwal S, Rahul, Kumar S. Impact of COVID-19 on gynecological cancer management. Int J Clin ObstetGynaecol 2020;4(4):94-98.

Workshop/Conferences Organized – NIL

COVID related highlights: All faculty, residents and nursing staff as well as ward attendants and sanitary staff were posted for duty in the Covid hospital at various times throughout the year. This was in addition to handling administrative duties in various committees including the Quarantine committee, Health care workers surveillance committee and the departmental HCW surveillance committee. The faculty also took part in all the Covid-related academic activities conducted by the institute.

DEPARTMENT OF TRANSFUSION MEDICINE

STAFF

Name of Faculty Members:

1.	Dr. R.K. Chaudhary	Professor & Head
2.	Dr. Priti Elhence	Professor
3.	Dr. Anupam Verma	Professor
4.	Dr. Prashant Agarwal	Professor
5.	Dr. Atul Sonkar	Professor
6.	Dr. Dheeraj Khetan	Addl Professor
7.	Dr. Rahul Katharia	Addl. Professor

Residents/ Students

M. D. Student	06
Service Sr. Residents	13
PDCC	01

Department Activities

Patient Care Services

The Hall marks of the blood collection are:

1. Total dependence on voluntary blood donation
2. Strict donor screening criteria
3. Strict adherence to quality control at all phases of blood processing

Total Blood Donors Registered: 21407

Blood Collection: 18854

Component Prepared

	No of units
Whole Blood	159
Leuco poor Red cells	17541
Platelet Concentrate	13949
Fresh Frozen Plasma	16146
Cryo Poor Plasma	1261
Cryoprecipitate	1261
Single Donor Platelet (Plateletpheresis)	1085

Approximately 99% of collected blood is subjected to component preparation.

Component issued to various department: Percentage (%)

Gastro-Surgery	15.9
Urology & Renal Transplantation	7.2
Nephro & Dialysis	2.8
CVTS	8.6
Neuro Surgery	13
Gastro Med.	1.3
Genetics /	14
Immunology/Hematology	24.7
Radiotherapy/ G. Hospital	1.5
MICU/CCM/Post op	4.3
Others	6.1
RCH (Covid 19 Patients)	1.4

No. of Components issued

	No of units
Red Cell units	20889
FFP	11204
Platelets	13532
Cryoprecipitate	1096
CPP	335

Transfusion Transmissible infection screening:

Marker	Prevalence %
Anti HIV 1 & 2	0.44
Anti HCV	0.88
HBsAg	1.07
VDRL	0.21
Malaria	0.00

Immuno-Hematology Service

The diagnostic aid has been provided to various Immuno-hematology disorders, like autoimmune hemolytic Anemia, PNH, cold agglutination disease, hemolytic disease of newborns etc.

Test	No of Test
Direct Coomb's Test	896
Indirect Coomb's Test	697
Cold Agglutinins	20

Antibody titre	478
Antibody Screening	95
Transfusion Reaction Work up	22
Blood Group	634
PNH (Gel Cards)	30
Herpain / PF4 (HIT)	16

Voluntary Blood Donation Camps in 2020

SN	Date	Organisation/Organizer	Location	Total donation
1.	15-01-20	Thalassemia Society	Tulsi Ganga Mandapam, Mahanagar Lucknow	18
2.	17-01-20	Mahindra Finance	Millenium Pace Saheed Path	08
3.	19-01-20	Chetichand Mela Committee, Lucknow	Godadhidham, Alambagh, Lucknow	47
4.	23-01-20	Maharana Pratap Inter College Employees	Maharana Pratap Inter College, Lucknow	30
5.	26-01-20	Agarwal Sabha	Hariom Mandir, South city, Lucknow	40
6.	04-02-20	Vodafone	Vodafone office, Vibhuti Khand, Lucknow	34
7.	07-02-20	Blood Connect	R.M.L. Law College, Lucknow	53
8.	14-02-20	Guru Govind Singh Study Circle, Lucknow	Shakti Bhawan Canteen, Lucknow	34
09.	19-02/20	Durga Pooja Committee, Aashiyana, Lucknow	Durga Pooja Sthal, Aashiyana, Lucknow	11
10.	19-02/20	Blood Connect	Maharaja Bijli Passi Govt Pg College Lko	18
11.	20-02-20	B.B.D. University students and administration	B. B. D. University, Faizabad Road, Lucknow	88
12.	21-02-20	Amazon India	Amazon Sorting Centre, Kanpur Road, Lucknow	41
13.	23-02-20	I.E.T. Engineering College students and administration	I.E.T. Engineering College Lucknow	72
14.	26-02-20	Thalassemia Society	P.N. International, Nadarganj, Lucknow	61
15.	03-03-20	TATA Motors	TELCO Campus, Faizabad Road, Lucknow	92
16.	06-03-20	Blood Connect	Future Supply Chain Solution, Behind C.R.P.F. camp, Lucknow	15

17.	07-06-20	Eldeco Mariyawa, Residents Welfare Association	EldecoMariyawa, Sitapur Road, Lucknow	20
18.	15-06-20	Sushant Golf city, Residents Welfare Association	Sushant Golf city, Lucknow	09
19.	20-06-20	Khazana Market Vyapaar Mandal	Khazana Market, Ashiyana, Lucknow	21
20.	21-06-20	Tanushree Agarwal	Omaxe-2, Behind UP-100, Shaheed Path	20
21.	21-06-20	Blood Commando Foundation	SGPGIMS Blood Bank, Lucknow	16
22.	01-07-20	Dept. of Transfusion Medicine, SGPGIMS, Lucknow	SGPGIMS Blood Bank, Lucknow	45
23.	15-08-20	Blood Commando Foundation	SGPGIMS Blood Bank, Lucknow	22
24.	17-09-20	I.T.I. Aliganj, Lucknow Administration	I.T.I. Aliganj, Lucknow	10
25.	01-10-20	Dept. of Transfusion Medicine, SGPGIMS, Lucknow	SGPGIMS Blood Bank, Lucknow	16
26.	23-10-20	Blood Connect	JR RPF Academy Talkatora Road, Lucknow	34
27.	27-10-20	Blood Connect	R.P.F. Post, R.D.S.O., Lucknow	26
28.	01-11-20	Tanushree Agarwal	OMAXE Residency-2, Saheed Path, Lucknow	30
29.	05-11-20	Shri Shyam Pariwar, Lucknow	Khatushyam Mandir, New Hyderabad, Lucknow	22
30.	21-11-20	Pravir Arya	Ram Ram Bank Chauraha Jankipuram Lko	18
31.	24-12-20	Chander Nagar Gurudwara Committee, Alambagh, Lucknow	Chandernagar Gurudwara, Alambagh, Lucknow	26

Teaching and Training

1. Seminars, Journal Clubs, Practical, and Demonstrations are regularly held for MDs, PDCC, MScMLT students and Sr. Residents. Teaching sessions are also held for nursing and technical staff.
2. Short Term Training (Blood Safety Training Program Program, U.P. State AIDS Control Society, Lucknow
3. A total of 20 medical officers have undergone training in Blood Safety.
4. Prof J.G. Jolly Online teaching program for all India postgraduates in Transfusion Medicine.

Honours & Awards

Dr. R. K. Chaudhary

- Selected as International fellow of College of American Pathologists (IFCAP)
- Selected as Fellow of Indian Society of Hematology and Transfusion Medicine (FISHTM)

Dr. Prashant Agarwal

- Principal Assessor for National Accreditation Board of Hospitals (NABH)
- External expert for recruitment at All India Institute of Medical Sciences, Bhopal

Member of Editorial Committee

Dr. R. K. Chaudhary

- National Advisor to Editorial Board of Asian Journal of Transfusion Science

Dr. Dheeraj Khetan

- Associate Editor, Asian Journal of Transfusion Science, peer-reviewed, PubMed Indexed journal of Indian Society of Blood Transfusion & Immunohematology (ISBTI) and the Indian Society of Transfusion Medicine (ISTM)

Referee/ Reviewer of a Journal

Dr. R.K. Chaudhary

- Indian Journal of Medical Research
- Asian Journal of Transfusion Science
- Transfusion and Apheresis Science
- Transfusion Medicine Journal

Dr. Priti Elhence

- Reviewer for Indian Journal of Medical Research
- Indian Journal of Hematology and Blood Transfusion
- Vox Sanguinis

Dr. Prashant Agarwal

- Reviewer for Indian Journal of Haematology & Blood Transfusion
- Reviewer for Asian Journal of Transfusion Medicine

Dr. Atul Sonkar

- Referee/Reviewer of Journal: AJTS

Dr. Dheeraj Khetan

- Scientific Reports, Nature group
- Asian Journal of Transfusion Science
- Indian Journal of Hematology and Blood Transfusion
- Transfusion and Apheresis Science
- Journal of Blood Transfusion

Research Projects

1) Intramural

SN	Title of project	Name of PI	Funding agency	Amount	Date of Sanction
1	A pilot study on making a repository for whole blood derived convalescent plasma as an alternative to apheresis convalescent plasma from blood donors with virologic or serologic evidence of prior infection with SARS-CoV-2.	Dr. Anupam Verma	SGPGI	Rs 4,90000/-	23.12.2020 Duration: 15.12.20- 14.12.22
2	Prevalence of SARS CoV-2 antibodies in healthcare workers to determine infection exposure.	Dr. Rahul Katharia	SGPGI	Rs 4,93000	11.1.2021 Duration: 25.12.2020- 24.12.2022

2.) Extramural Research Grants:

Sl. No.	Title of Project	Name of PI	Funding Agency	Amount	Date of sanction
1	Alternations in immune, inflammatory and endocrine responses in Indian patients with diabetes infected with SARS-CoV-2 and its clinical consequences.	Dr. S Sahu, PI Dr. Prashant Agarwal (Co PI)	SERB	50 Lacs	

Publications

Dr. R. K. Chaudhary

- Chaudhary R, Verma S, Verma A. Frequency of DEL phenotype in RhD negative blood donors in India. Immunohematology 2020 Dec (in press)
- Singh B, Chaudhary R, Katharia R. Effect of multiple maternal red cell alloantibodies on the occurrence and severity of Hemolytic Disease of the Fetus and Newborn. Transfusion and Apheresis Science. 2020 Sept (in press)
- Singh B, Chaudhary R, Katharia R. Prognostic Significance and Prevalence of IgG Subtypes in Rh Haemolytic Disease of Fetus and Newborn. Accepted in Indian Journal of Hematology and Blood Transfusion 2020.DOI:10.1007/s12288-020-01367-9

Book Chapters

- Chaudhary R. Principles of Immunohematology, DGHS Manual, Ministry of Health, GOI
- Chaudhary R. Principles of laboratory techniques. eBook of International Society of Blood Transfusion (ISBT).

Dr. Priti Elhence**Book Chapter**

- Elhence P, Verma A, Katharia R. Hospital Transfusion Policy and Audits. DGHS Technical Manual, Ministry of Health, GOI

Dr. Prashant Agarwal

- Solanki A, Katharia R, Singh A, Chauhan A, Chandra T, Sonker A, Agarwal P. Prevalence and predictors of adverse reactions in plateletpheresis donors with the perspective of donor safety in a tertiary care hospital of Northern India. *Asian J Transfus Sci.* 2020 Jan-June; 14(1): 44-48.
- Singh A, Agarwal P, Verma A. Assessment of platelet concentrate prepared from fresh and Overnight held buffy coats. *International Journal of Scientific Research* 2020 Sept; 9(9): 69-71
- Solanki A, Katharia R, Singh A, Chauhan A, Chandra T, Sonker A, Agarwal P. Predonation drink: a simple and cost-effective strategy to mitigate vasovagal reactions among whole blood donors, a study from North India. *Global Journal of Transfusion Medicine* 2020 Jul-Dec; 5(2): 146-149.

Dr. Atul Sonkar

- Implementation of Internal Quality Control Program for monitoring of ELISA performance at a blood centre. Acceptable for publication in the *Journal AJTS*.

Dr. Dheeraj Khetan

- Gupta N, Khetan D, Shukla J and Chaudhary R. Cell free DNA in red cell components: effect of storage duration, leuko-filtration and gamma irradiation. *Transfusion Medicine and Hemotherapy.* 2020 Oct;47(5):409-419. doi: 10.1159/000505937. Epub 2020 Feb 10. PMID: 33173459; PMCID: PMC7590781.
- Khetan D, Verma A, Shukla J and Chaudhary R. Molecular characterization of RhD variants in North Indian blood donor population. *Transfusion Medicine*, 2020;30:295-303. <https://doi.org/10.1111/tme.12690>

Accepted for publication

1. Khetan D, Chaudhary R K and Shukla JS. Molecular basis of RhD negative phenotype in North Indian blood donor population. *Indian Journal of Medical Research*
2. Verma A, Khetan D, Chaudhary RK and Agarwal P. Phenotypic characterization of RhD discrepant North Indian Blood donor population. *Immunohematology*.

Conference Presentations**National****Dr. Prashant Agarwal**

- Delivered guest lecture on "Intrauterine Blood Transfusion" at the National Conference of Indian Society of Transfusion Medicine, at Mumbai.
- Chairperson for session at the National Conference of Indian Society of Transfusion Medicine, at Mumbai.

- Chairperson for session of free papers for Young Professional Forum, Indian Society of Transfusion Medicine, Webinar

Outstanding Features / Summary

1. Despite restrictions imposed on travel due to COVID epidemic, dept could manage to collect sufficient numbers of whole blood donations and plateletapheresis. Dept could provide requisite blood component support to all patients, COVID and non-COVID during this period.
2. Department established Convalescent Plasma Program which included screening of COVID patients and donors for anti-IgG antibody and plasmapheresis. Dept also established an algorithm for ensuring judicious use of convalescent plasma.
3. Of the total COVID positive patients admitted at SGPGI, approximately 20% have been supported with packed red cells, apheresis/random donor platelets, cryoprecipitate and plasma. Dept is also involved in managing COVID patients by providing diagnostic support in the form of screening for heparin induced thrombocytopenia and TEG for patients with coagulopathy.

COVID related highlights

Transfusion support in COVID-19 Patients

Component	Total Patients	Total blood components issued
PRBC	152	266
FFP	38	234
RDP	65	382
Cryo	11	95
Convalescent Plasma	124	196

Laboratory support in COVID-19 Patients

Test	Total Patients
ABO Grouping	627
Thromboelastography (TEG)	46
Screening for Heparin Induced Thrombocytopenia (HIT)	05
Total Convalescent Plasma donations	81

Vision of the department

1. Department envisage to create a “Center of Excellence” in transfusion medicine which will serve as apical center for development of guidelines, training, referral services and transfusion support to centers in the state of UP.
2. Department is in the process of starting new facilities like Post donation clinic, Post transfusion clinic, Platelet serology, Patient blood management program.
3. Department is developing External Quality Assurance program in collaboration with UP State AIDS Control Society for blood centers in the state of UP.

DEPARTMENT OF UROLOGY AND RENAL TRANSPLANTATION

1. Department has started Robotic Surgeries in mid 2019 and has done more than 120 cases till date.
2. Department has done more than 3200 renal transplant surgeries which is the highest number in Government Institutions.
3. Dr. Ravi Banthia, Dr. Naveen, Dr. Abhay and Dr. Sitangshu won prizes for best paper and poster in various national and international conferences,
4. Dr. Naveen honoured as Best Resident by the Institute. Dr. Ravi Banthia has been selected as Clinical Fellow in UK for the session 2021-22.
5. All the residents have worked tirelessly for COVID as well as Non-COVID patients under the able guidance of faculty members.
6. Recently our department showed an exemplary way to help and actively manage a COVID positive patient with a multidisciplinary approach when a patient who was operated elsewhere developed renal pseudoaneurysm. Urology Department coordinated with RCH, interventional radiology, hospital administration to actively manage that case. Such cases need care and precise planning of the utmost level along with conviction of the treating team. This case reflects the importance of a cohesive effort and expertise of multiple departments to manage COVID positive patients with other diseases, which if successfully executed, can be applied to many patients with similar problems in this pandemic era.

Department has started a new academic courses on Animal model for Biomedical Research (Pre-PhD course work).

01 Ph.D. student has been registered under Dr. Naveen Kumar Gautam.

Research projects

Extramural

1. Study the toxic effects of exposure to Bisphenol A and dibutyl phthalates on renal organ and identification of potential therapeutics for its mitigation by using *Drosophila melanogaster* model organism. (2020 onward; DST, New Delhi; Cost: 50 Lakhs).
2. Deciphering molecular mechanisms and association of genetic variants in diabetic nephropathy. (2015-2021; DST, New Delhi; Cost: 1 Crore)
3. Development of *Drosophila* model for Cd and Hg induced renal toxicity. (2018-2021; CSIR-IITR, Lucknow; Cost: 20 Lakh.

Intramural

1. Predictors of intraoperative surgical difficulty in renal transplant recipients: A prospective observational study.
2. Following intramural research project has been submitted by the department. These are under review.
3. Development of non-invasive biomarkers for early diagnosis of clear cell renal cell carcinoma (ccRCC) and identification of therapeutic target for the disease. (Grant Rs. 5 lacs).
4. Detecting long non-coding RNA biomarkers in prostate cancer liquid biopsies.

Vision for the research lab in the department in next 5 years

1. To get involve in new research and find new innovative surgical and non-surgical techniques for the management of patients with urological malignancies.
2. To develop a dedicated Uro-oncology unit to take care the patients with urological cancers.
3. Department is actively involved in upgrading state-of-the-art lab facilities in clinical as well as basic research in different areas of urology (Uro-oncology, Uro-lithiasis, Renal Transplantation, Infertility, Paediatric urology, etc). We are working towards establishing an animal cell culture lab for research involving urological tissues, with the ultimate aim of establishing the branch of regenerative urology at the institute. Recently we received approval from Director Sir for establishing Drosophila (alternate to animal model) research facility for modelling various urological diseases. Drosophila model is being used to understand the molecular mechanisms and development of potential therapeutic molecules of various urological diseases.
4. We have started translational research to develop diagnostics, prognostic tools, and identification of therapeutic molecules for better care of patients. Apart from Department is involved in developing human resources as it runs Ph.D courses and lab training programs. Department has started the course “Model system for biomedical research” for Ph.D. coursework. Incoming 5 years, I wish the department will achieve a new height in the area of urological translational research.

COLLEGE OF MEDICAL TECHNOLOGY AND ALLIED HEALTH SCIENCES

STAFF

Name of Faculty Members:

1. Prof. S Gambhir	Nodal Officer in-charge Course coordinators for B.Sc/ M.Sc courses
2. Dr. Ujjala Ghoshal and Dr. Atul Garg	M.Sc Medical Lab Technology (Virology)
3. Dr. Anupam Verma	M.Sc Lab Technology (Transfusion Medicine)
4. Dr. Narayan Prasad and Dr. Manas Behera	B.Sc Renal Dialysis Technology
5. Dr. Puneet Gooyal	B.Sc Anesthesia Technology
6. Dr. Sunil Jain and Dr. Zafar Nayaz	BSc Imaging Technology (Radiodiagnosis)
7. Dr. KJ Maria Das	B.Sc Radiotherapy Technology
8. Dr. Alok Nath	B.Sc Respiratory care Technology
9. Dr. Devendra Gupta	Batchelor of Physiotherapy
10. Dr. SoniyaNityanand and Dr. K Rehman	B.Sc Medical Lab Technology (Hematology)
11. Dr. SK Agarwal and Dr.Varuna Verma	B.Sc Perfusion Technology
12. Dr. Gyan Chand	B.Sc OT Technician

Staff

Senior Administrative Officer	1
Technical Office	1
LDA	1
Technician	1
Data Entry Operator	3
Patient Helper	1

Sanitation

CMT was started in the year of 2017 with 12 courses, 9 BSc and 3 MSc. The Course was duly approved by the Academic Board and 51st Governing Body. Four more courses are expected to be added this year after due approval of Govt. Of UP.

The aim of the College of Medical Technology and Allied Health Sciences has been to create Paramedical and Allied Health Sciences manpower in the state of Uttar Pradesh as well as in the country. CMT and Allied Health Sciences is the only paramedical institute in the state which runs BSc and MSc level course in State, other institutes award Diploma Courses only. The first batch of MSc students has successfully finished the course.

The CMT and Allied Health Sciences is managed by a managing committee and each course is headed by an institute faculty as course coordinators. All the courses have been approved by the individual board of studies. The Institute has sanctioned seats of 125 students and at present Ist year and IInd Year. A total of 94 students are pursuing 3 years BSc and First batch of 6 student of MSc will

be passing out. Faculty of the Institute and technical staff teaches and takes practical on payments basis. Guest faculty is also involved in the teaching. To utilize the vacant seats the President has approved the entrance criteria of 50% to 50 percentile and same is being implemented from this year. Counselling for the same is on 3rd June 2021.

Classes have been re oriented to fit the Covid criteria and are being held in on line mode. Two internal assessments for all courses have been held.

CMT related activities -data

M.Sc. final year exam:

Si.No.	Course	No. of Students appear.
1.	M.Sc. MLT (Medical Virology)	02
2.	M.Sc. MLT (Transfusion Medicine)	01
3.	M.Sc. Medical Biotechnology	05
Total		08

- Final Exam was conducted in September-Oct 2020 and 07 students out of 08 were declared pass. and one was fit for compartment exam.
- All B.Sc. & M.Sc. students were promoted to the next classes. Entrance exam for the selection of Students in different specialities was organised at BSNV PG College on 27th October 2020 and a total 25 students was selected in different specialities.

Courses	Total Students Selected
B.Sc. Laboratory Technology (Hematology)	02
B.Sc. Perfusion Technology	00
B.Sc. Anaesthesia Technology	00
B.Sc. Respiratory Care Technology	00
B.Sc. Radiodiagnosis & Imaging Technology	07
B.Sc. Radiotherapy Technology	02
B.Sc. Operation Theatre Technology	04
B.Sc. Renal Dialysis Technology	02
Bachelor of Physiotherapy	03
M.Sc. MLT (Medical Virology)	00
M.Sc. MLT (Transfusion Medicine)	00
M.Sc. Medical Biotechnology	05
Total 25 students were selected	

- Institute reduced the selection criteria passing marks of the students from 50% to 50 percentile hence an officer order was released by the ER to implement the same from the session 2020-21.
- A counselling was organised on 3rd June 2021 and total no of 24 students were selected as per the below chart.

Courses	Total Students Selected
B.Sc. Laboratory Technology (Hematology)	07
B.Sc. Perfusion Technology	01
B.Sc. Anaesthesia Technology	01
B.Sc. Respiratory Care Technology	00
B.Sc. Radiodiagnosis & Imaging Technology	02
B.Sc. Radiotherapy Technology	03
B.Sc. Operation Theatre Technology	03
B.Sc. Renal Dialysis Technology	01
Bachelor of Physiotherapy	05
M.Sc. MLT (Medical Virology)	00
M.Sc. MLT (Transfusion Medicine)	00
M.Sc. Medical Biotechnology	01
Total 24 students were selected	

7. Due to COVID-19 pandemic online classes are continued and students are released from the hostel to prevent COVID-19 infection.
8. Internal Assessment were conducted online for all specialities (B.Sc. & M.Sc. Students) in the month of May. At present total no. of student's year wise is given below:

Course	Year (Session 2020-21)	Total Students
B.Sc.	01 st	43
	02 nd	36
	03 rd	44
M.Sc.	01 st	06
M.Sc.	02 nd	06
M.Sc.	Internship	07
		Total Student 142

Total No. of Guest Faculty other than Institute faculty is given below:

Subject	No. of Guest Faculty
Anatomy	01
Biochemistry	02
Computer	01
English	01
Physiology	02
Psychology	01
Pharmacology	02
Health Care & Environmental Science	01

Immunology	01
Endocrinology	01
Basic Chemistry	01
Ethics and Database Management	01
Nutrition	01
Genetics	01
Applied Electronics	01
Bio Physics	01
Clinical Biochemistry	01

COLLEGE OF NURSING

Faculty 05

Residents/Students 167

Departmental Activities

1. All teachers are involved in taking Lectures from 02 pm to 05 pm daily.
2. All faculties are involved in Demonstration and Return Demonstration of procedure by students in Clinical Posting.
3. All Faculties are involved in conducting Nursing Research.

Patient Care Services

1. Students are posted in different ward, OT, ICU for Clinical experience from 08 am to 01 pm daily.
2. All Faculties are posted in different ward to supervise the students from 08 am to 01 pm.

Outstanding Features/Summary

1. 38 students are awarded B.Sc. Nursing degree in convocation held in the month of December 2020
2. 12 students have been selected in Tata Memorial Cancer Institute Varanasi and 22 students are selected as CHO (Community Health Officer) in Madhya Pradesh.
3. Many students are selected in various AIIMS Institute as a Staff Nurse Gr-II and for Higher studies in various prestigious Institute of India like PGI Chandigarh, AIIMS, New Delhi, Bhopal and Jodhpur

Vision of the Department for the next 5 years.

1. Fill the vacant post of Principal 01, Lecturer 02 and Tutor 08.
2. College of Nursing building.
3. To start M.Sc. Nursing & Ph.D. Nursing in College of Nursing.

ENGINEERING DEPARTMENT

The following construction works/projects were ongoing in the year 2020

S. No	Name of Projects/Works	Cost approved by the Govt. (Rs. in lacs)
1	Emergency Medicine & Renal Transplant centre through loan from State Bank of India	32598.74
2	Research Student/Married residents' hostel (100 Nos.)	2581.75 + GST
3	Advanced Ophthalmic Centre	5711.56
4	Upgradation of Air-conditioning in Main Hospital Buildings	5097.37
5	Construction of Modular O.T (03 Nos.) in place of old Library building	1233.60
6	Doctor's Canteen for Residents	313.34
7	Upgradation of Fire fighting in Main Hospital buildings	2911.12
8	Construction of 33/11 KV (02 No) substations	1035.05
9	Constuction of type-III Nurses flats-80 Nos (G+10) storeyed.	2892.33 + GST
10	Extension of VIP Patient guest house (PRA-I)	779.38 + GST
11	Construction	1215.21 + GST
12	Extenssion of Bronchoscopy Lal at PMSSY Block	306.75
13	Provision of R.O. Plant for dialysis and drinking water in Nephrology department	1710.24

*The following workers/project weresuccessfully completed in 2020 and are in use of the institute.

S. No.	Name of Project/Works (Ongoing)	Cost approved by the Govt. (Rs. in Laks)
1	Extension of Diagnostic Block/C lift lobby etc.	1708.67 + GST
2	New Married doctors Hostel (200 Nos.)	5474.67 + GST
3	Upgradation of Old generators 1000 KVA (03 Nos.) by installation of New 1250 KVA (03 Nos.) generators	413.24 + GST
4	26 Nos. New lift installation (UPRNN)	1078.91

GENERAL HOSPITAL

STAFF

Name of Doctors

- | | |
|---------------------------------------|-------------------|
| 1. Dr. Piyali Bhattacharya | Pediatrician |
| 2. Dr. Prerna Kapoor | General Physician |
| 3. Dr. Deepa Kapoor and Dr. Anju Rani | Gynecologist |
| 4. Dr. Brajesh Singh | General Surgeon |
| 5. Dr. Ajeet Kumar | Dermatologist |

Department Activities

The General Hospital, at SGPGI was meant to serve the employees of the Institute and their families and bridge the gap between primary and tertiary level health care facilities available at a Super-specialty teaching Hospital. There is a team of specialist doctors including a Surgeon, Physician, Pediatrician, Gynecologists, and a Dermatologist who take care of the staff and their families. In the last few years, General Hospital has been made accessible to anyone who walks in. The aim has been to extend medical care beyond the original mandate of treating staff members and their families. Much needed medical facilities are now being extended for the benefit of general public of Uttar Pradesh and neighbouring states as well. With the addition Independent sample collection, billing and registration counter, Vaccination room, Dressing room, HRF store and recently, a Diet Clinic as well, the patient friendly services have further expanded. And today a comprehensive package yet remaining family centric is delivered here. The Medicine OPD caters to ailments such as fever, anemia, tuberculosis, infective, metabolic and lifestyle diseases, poison and animal bites, school health and Preventive Medicine and also participates in screening, recruitment of new employees and kitchen workers. The Pediatrics specialty has been recognized for its work in the Neonatal Resuscitation Programme (NRP), Pediatric Advance Life Support system (PALS) and Adolescent care. The Obstetrics and Gynecology facility manages normal deliveries, caesarian sections and pelvic inflammatory diseases. They also hold an active interest in gynecological malignancies and have conducted CMEs for the same. The General Surgery facility takes care of various minor and major procedures such as Hernia Repair, Wound care, Varicose veins (management with Radiofrequency Ablation or Endo Vascular Laser technique) and Proctology. The dermatology clinic manages diverse skin infections and infestations, Pigmentary disorders, nutritional and metabolic diseases, skin manifestations of systemic disorders as well as sexually transmitted diseases and leprosy. Diet clinic looks after the nutritional needs of the in patients and gives dietary advice to our out patients especially for special needs during pregnancy, lactation, dietary deficiencies, metabolic syndrome, hypertension, gout and diabetes.

With an ever-increasing patient numbers, General Hospital has now acquired an independent identity of its own, at the same time it retains its complimentary status with the main Hospital.

Honors & Awards

1. Dr. Piyali Bhattacharya awarded with the Lucknow Academy of Pediatrics Excellence Awards 2020 for excellence and timeless service in the field and community.
2. Dr. Piyali Bhattacharya awarded Professor Indu Wakhlu Oration 2020 by the Adolescent Health Academy, Lucknow

3. Dr. Piyali Bhattacharya awarded Fellowship of the Royal College of Physicians (London) 2019.
4. Dr. Piyali Bhattacharya designated Nodal Person State Technical Advisory Unit (STAU), U.P. on Severe Acute Malnutrition (SAM) by UNICEF & NHM.

Research Projects

1. Dr. Brijesh Singh- A real-world observational registry of management of venous leg ulcer in India.
2. Dr. Perna Kapoor-Co PI in ICMR project -Evaluation of peripheral blood T and B cell response to Mycobacterium tuberculosis membrane and associated antigen Alpha crystalline as progression biomarker for tuberculosis.

Publications

1. Bansal U, Ghate S, Bhattacharya P, Thapar RK, Gupta P. Parental Perspectives on Remote Learning and School Reopening. Indian Pediatrics 2020 Dec: Vol 57: pg 1-2
2. Rani AK, Singh B, Kumar S. Urological Injury in Obstetric and Gynecological Surgery: A Retrospective Analysis of Five Years. Indian J Obstet Gynecol. 2020;8(2):18-22.
3. Rani AK, Agarwal S, Rahul and Kumar S. International Journal of Clinical Obstetrics and Gynaecology 2020; 4(4): 94-98
4. Rani AK, Kapoor D and Kumar S. International Journal of Clinical Obstetrics and Gynaecology 2020; 4(3): 64-67
5. Rani AK, Singh B and Kumar S. International Journal of Clinical Obstetrics and Gynaecology 2020; 4(2): 409-412

Outstanding Features/Summary

1. Newer Procedure-Dr. Brijesh Singh has started a new procedure Endo venous laser ablation of varicose veins.

COVID related highlights (if any) would be welcome

1. Dr. Piyali Bhattacharya appointed as Task Force Member on School Reopening and Remote Learning in and after COVID 19 by the Indian Academy of Pediatrics.
2. Recommendations sent to MOHFW & published in Indian Pediatrics Oct 12, 2020

HOSPITAL REVOLVING FUND (HRF)

The Hospital Revolving Fund (HRF) was established in 1997 with the approval of the 44th Governing Body. This unique supply chain management system for all types of drugs and consumable items required for patients at the Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS) has grown in phases, extending from OT/ICU area to Procedure Labs to Wards, OPDs and other new areas of SGPGIMS. Today, HRF can proudly claim to have achieved the goal set for it and fulfilled its mission, which was to establish a self sustaining system to supply all needs it is tasked with.

Unique features of HRF. The unique methodology for procurement developed by HRF over the past 23 years ensures that high quality medical and surgical items are provided to the patient at low prices, often 30-40% below MRP. The drugs distribution system is completely online and is based on the Hospital Information System (HIS). Requisitions for medicines, surgical items and consumables stocked by HRF can be raised from any corner of the hospital, with the only precondition that the patient maintains a sufficient balance of funds in his/her account. A unique 24-hour bedside delivery system ensures prompt delivery of the prescribed medicines and items in a short time, with proper billing and full details.

HRF Inventory. An inventory of over 16000 items in six major categories (Drugs, Consumables, Sutures, Disinfectants and Special Consumables for Cardiac Cath Lab, Radiology, GI Endoscopy) is being managed by the Main HRF Store and distributed through its network of 23 peripheral unit stores, 115 Miscellaneous stores and OPD Pharmacy, which run on 08/12/24 hours basis, depending on patient requirements in different areas. All these items are procured through a system of e-tenders culminating in the issue of Rate Contract Agreements for fixed period. The HRF maintains a transparent system of selection of vendors and involves senior faculty members in product evaluation and techno-commercial deliberations. The financial year 2019-20 has witnessed award of 370 Rate Contracts for over 8000 items. HRF is also actively involved in providing printing paper and stationery items, in providing human resources on outsourcing basis to various Hospital areas for smooth running of patient care service and supporting pest control services for the Institute.

HRF supplies Rajdhani Coron Hospital (RCH). The latest peripheral store created is Covid-19 to manage the Covid pandemic at Rajdhani Covid Hospital (RCH). All medicines, drugs, surgical items, consumables and miscellaneous items being used in the 300 bedded RCH are being procured and supplied free of cost, as mandated by the Government, to Covid-19 patients admitted to RCH. HRF has risen to the occasion to meet challenges in supply chain management posed by the global Covid-19 pandemic, not only for the regularly used medical and surgical items, but also in procuring quality personal protective equipment (PPE), N95 masks and other essential items needed for protecting health care personnel (HCP) combating the Covid-19 pandemic.

HRF Turnover. HRF has recorded an annual turnover of approximately Rs.23653.00 lakhs during the financial year 2019-20. A team of over 25 officers and permanent employees as well as 240 outsourced workers execute the multifarious tasks of the HRF under close supervision of the HRF Management Committee constituted by Director, SGPGI in compliance with Institute regulations. Report of work done by HRF is submitted regularly before the Governing Body of the Institute. Keeping in mind the high turnover and large volume of work, a professional Chartered Accountant has been appointed by the Institute to monitor the entire set of HRF activities. This is in addition to the mandatory audit by the AG Office.

HRF Contribution. HRF has proved to be a role model in the health industry for many including Hospital Administration Researchers and scholar. HRF has risen to the occasion to meet challenges in

supply chain management posed by the global Covid-19 pandemic. HRF is fully GST compliant and has initiated the process of procurement of available items through the Government e-Marketplace (GeM portal). HRF remains confident that it will overcome all challenges, sustain its high standards in supply chain management and emerge more vibrant and robust.

INVESTIGATION REVOLVING FUND (IRF)

IRF was established in the year 2003 and making strong and outstanding contribution in improvement of Laboratory services of the Institute since its inception by providing uninterrupted supplies of all lab consumables on the “Principle of Self- sustainability”. It has changed the views and opinions of all stakeholders over a period of time. IRF has successfully finalized a contract towards the creation & establishment of 24 hrs lab in Main OPD area of the Institute for routine tests & investigations throughout the year irrespective of weekends & holidays. This lab has been made functional in the year December 2015. The services of 24 hrs.Lab have also been extended to the Apex Trauma Centre which is functional from 30th July 2018.

Recently, with the outbreak of Covid-19 in the month of march 2020, the extended 24hrs lab at Apex Trauma Centre is successfully carrying out all the routine investigations of Covid-19 patients admitted at Apex Trauma Centre which was converted & renamed as “Rajdhani Corona Hospital-1 (RCH-1).”

Similarly, 24hrs lab (Main OPD) is also carrying out all the routine investigations of Covid-19 patient admitted in newly Created “Rajdhani Corona Hospital-2” (RCH-2), situated at main Hospital building (old main OPD Complex).

IRF is catering the need of all the kits, reagents & lab consumables to all the investigation department & their labs, on the basis of Rate Contract finalized on 31st December 2018 against e-tender for supply of diagnostic kits, reagents, chemicals & consumables

KAMDHENU ATI NIRDHAN CHIKITSA SAHAYATA SOCIETY

Kamdhenu Ati Nirdhan Chikitsa Sahayata Society is an autonomous registered society (Registered under U.P. Societies Registration Act 1860, Registration No. 1268) was established on 24th August, 1999 with the objective to provide financial assistance to the poor / needy patients who are attending the SGPGIMS for treatment, some of whom would otherwise not be able to continue the treatment.

Kamdhenu Ati Nirdhan Chikitsa Sahayata Society has provided financial assistance of Rs.6135000/- to 521 patients in financial year 2020-21.

PUBLIC RELATIONS DEPARTMENT

STAFF

Name of Staff Members:

1. KusumYadav	Public Relations Officer
2. Meena Johari	Asst Public Relations Officer
3. Shamola A Singh	Asst Public Relations Officer
4. Ajay P Ojha	Asst Public Relations Officer

Staff

Junior Reception Officer 9

Receptionist 4

Public Relations department in any hospital serves as an effective tool for communication between its stakeholders. The patients who reach hospital are physically, mentally and financially exhausted. They need to be received with proper care and empathy. Here, the role of PR personnel comes in. Public relations department deals with both internal and external communication.

The year 2020 started with the breakout of Covid 19 pandemic and the entire Public Relations activities steered towards the implementation of guidelines and covid 19 protocols.

Departmental Activities

Due to Covid pandemic, the need to protect entire patient care services from being shut down due to spread of infection was felt. Screening counters were started at the main entrance of the old OPD to screen patients and their attendants for fever and cough. The Public relations counter was converted to Screening II counter, where second screening was done by Senior Resident and subsequently patients' admission was planned in holding area.

Screening Counter was opened to screen the patients who were planned for dialysis/chemotherapy and for blood donors.

A Help Desk was also made functional at the very entrance of old OPD, where relatives of very sick patient could directly approach for help and guidance. Help Desk also catered to all the enquiries of patients and their relatives.

Another Help Desk was created round the clock for facilitating registration and admission of Covid Positive patients.

A VIP cell has activated in New OPD Block to take special care of Honourable ministers, present and ex MLAs, senior government officials and their families and others as per the protocol.

Planned positive coverage of the facilities of the institute was carried out in the interest of patient care. Extensive media and press coverage of the various conferences and workshops organized virtually due to Corona pandemic was also done which include:

"Defeat Covid 19 - Poster Competition" organized for children of the employees of the institute.

A series of lectures were organized on "Medical Ethics".

Program on “Rights and Safety of the women at work place” to celebrate women Empowerment Week.

Extensive media coverage of Institute’s Foundation Day and Convocation Day was ensured in spite of the Pandemic.

Compilation and editing of In-House journal of SGPGI Newsletter published quarterly which showcases various activities taken place in the institute and has been well received by the staff.

RAJDHANI COVID HOSPITAL (RCH)

Corona Virus Infectious Disease (COVID-19) is caused by a newly discovered novel SARS-CoV-2 Coronavirus. Unfortunately, it engulfed the entire globe-space in the wink of an eye causing widespread damage physically, socially and economically. It was declared Public Health Emergency of International Concern on 30th January 2020 and a global pandemic on 11th March 2020 by the World Health Organization.

India being the second most populous country of world could not stay untouched for long and soon became boorishly affected with the disease. India is the second most affected country after United States. Currently approximately One Crore Indians have been infected with the virus, of which six lakh are from the state of Uttar Pradesh (UP). Nearly 1.5 lakh including 8,200 from UP have succumbed to the disease in India, including many front-line health care workers (HCWs) fighting day and night to protect rest of the community against this deadly infection.

Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS) responded to the COVID challenge strongly and SGPGIMS, being one of the most esteemed and prestigious institute of India, held the baton in its hand to serve the community and dedicated its ATC (Apex Trauma Center) along with its armamentarium – a team of highly specialized doctors, highly trained nursing staff, patient helpers and dedicated sanitation workers, almost involving each and every department of the Institute and bringing out their best to exclusively treat COVID-19 affected patients. Below is the list of COVID care related activities performed by SGPGIMS till date:

HOSPITAL CAPACITY AND FACILITIES

1. The RCH (Rajdhani Corona Hospital) is a dedicated COVID hospital with a capacity of 318 beds comprising of:
 - a. Beds (Total = 318)
 - i. Well-equipped 276 bedded ICU/HDU.
 - ii. Dialysis Beds-10
 - iii. Private Beds-46
 - iv. Dedicated Emergency/T3 Triage -10
 - b. Treatment areas
 - i. ICU-1, ICU-2 & ICU-3:
 1. Each ICU is supervised by 03 Faculty, 08- Senior Residents and manned by 16-Nurses, 16-Hospital attendants & 16-Sanitary workers
 2. Overall all ICUs are supervised by 09 Faculty, 24-Senior Residents, 48-Nurses, 48-Hospital attendants & 48-Sanitary workers
 3. Each ICU is well equipped with multipara hemodynamic monitors, central monitoring station, invasive and non-invasive ventilators, motorized ICU beds, dialysis machines, portable RO machines, laptop-Ultrasound, infusion pumps, enteral infusion pumps, DVT pumps, defibrillator and ECG machines, etc
 - ii. HDU-1, HDU-2, HDU-3,
 1. Each HDU is supervised by 02 Faculty, 06- Senior Residents and manned by 12-Nurses, 12-Hospital attendants & 12-Sanitary workers

2. Overall all HDUs are supervised by 06 Faculty, 18-Senior Residents, 24-Nurses, 36-Hospital attendants & 36-Sanitary workers
- iii. T3-ED-RCH
 1. One dedicated Emergency with resuscitation bay and 10 bed ventilated unit for suspect COVID unstable patients
 2. Supervised round the clock by 03 faculty, 08 senior residents, 12-nurses, 12-hospital attendants and 12-sanitary workers
 3. The T3-ED is well equipped with multipara hemodynamic monitors, central monitoring station, invasive and non-invasive ventilators, motorized ICU beds, dialysis machines, portable RO machines, laptop-Ultrasound, infusion pumps, enteral infusion pumps, DVT pumps, defibrillator and ECG machines, etc

Provision of Dialysis in RCH

1. Dedicated floor for dialysis of 08 stable CKD patients
2. ICUs with dedicated for dialysis of 05 unstable CKD patients
3. T3-ED is also equipped to handle Dialysis of suspect unstable patients
4. Statistics
 - i. Total dialysis machines = 10
 - ii. Currently dialysis number = 10-12 per day
 - iii. >750 dialysis since March 2020 (Till 31st December 2020)

Overall statistics of admitted patients in RCH till 31st December 2020

1. Cumulative COVID +ve patients admitted-2175
2. Gender-Males (71.9%); Females (28.1%)
3. Recovered-1850/2175 (85.1%)
 - i. <5 yr = 93%
 - ii. 5-18 Years = 91%
 - iii. 18-60 Years = 91%
 - iv. ≥60 Years = 73%
4. Mortality-325/2175 (13%)
5. At present under treatment-85
6. Median age (years) of recovered-52 (37-60)
7. Median age (years) of dead-61 (52-70)
8. Youngest recovered patient-08 months (M)
9. Oldest recovered patient-90 (F), 83 (F)
10. Median LOS of recovered- 12 (8-16)
11. Median LOS of dead- 8 (4-15)
12. Recovery Rate has been consistently rising month wise
 - i. April (67%); May (91%); June (78.5%); July (89%); August (87%); September (86%); October (81%); November (84%); December (85%)

1. Mortality rate has shown downward trend

- i. April (33%); May (8.8%); June (21.5%); July (11%); August (13%); September (14%); October (19%); November (16%); December (15%)

A standard operating protocol was framed in accordance with MoHFW, ICMR and State Government guidelines. Every patient goes through a 3-point triage system and further management is ascertained. The ICU is giving state of the art management of COVID-19 patients which are being referred to the institute from various districts of the state. *Centralized Donning and multiple Doffing areas have been created for strict infection prevention and control (IPC) measures. Our IPC protocols are so stringent that none of the HCWS working in RCH have been found positive for COVID till date*

Apart from above facilities, The RCH also has facility of:

- I. Operation Theaters (OT)-04
II. Labour OT-01

Training of Health Care Workers (HCWS)

SGPGIMS is providing training to its HCWS along with HCWs from all the 52 government and private medical colleges:

Using the ECHO platform training of HCWs throughout the state is being carried out

1. Didactic Lectures Modules (13) detailing various aspects of COVID Care is presented twice weekly to 52 medical colleges of UP
2. Till date 75 such sessions have been conducted
3. About 25,000 HCWS have benefitted from these sessions
4. 80% attendees were in full agreement to the usefulness of these online sessions towards betterment of COVID patient care in their respective units.

‘Virtual-ICU-Case-Based Rounds’ with ICU teams of 52 medical colleges of UP

1. ICU clinical cases from within the COVID-ICU are presented by the ICU team
2. Interactive case discussion centring around protocol based clinical management for COVID as specified by MoHFW is conducted
3. All aspects of ICU care also discussed
4. Till date 50 such sessions have been conducted
5. About 5000 participants have benefitted from these sessions

Virtual-detailed-evening clinical rounds of RCH

1. Interactive clinical session of all cases admitted in RCH is conducted daily for about 2 hours
2. Faculty in-charge for the clinical cases discuss each case and treatment is fine-tuned in discussion with the Director and Nodal officers
3. Till date more than 200 such sessions have been conducted till date

All HCWs training completed before going for duties

1. Residents, nurses, hospital attendants and sanitary staff undergo mandatory training in Donning and Doffing along with Infection Prevention and Control practices of RCH
2. The training is so streamlined and stringent that none of the HCWS working in RCH have been found positive for COVID

3. Till date we have trained approximately 2000 SGPGI staff

Life support device skill training before going to duties

1. Faculty, residents and nurses undergo mandatory training in life support device training on invasive and non-invasive mechanical ventilation, high flow nasal cannula (HFNC), oxygen therapy, vasopressors, etc before joining duties in RCH
2. Till date approximately 10 sessions of 2 hour each have been conducted thus far
3. Total of 150 participants have benefitted from these sessions

Telemedicine Services

Telehealth system framed the foundation of E-OPD and E-CCS (Electronic Covid Care System). E-OPDs have been established to minimize travel and thence exposure and movement of patients who come up for routine follow up and also Tele-OPDs have been set up to help out doctors working in other centers for their patient related trouble-shooting. The telemedicine services include:

1. The Department of Telemedicine in SGPGI has created state-of-art Tele-Health services catering to thousands of OPD patients who due to the COVID have been unable to attend physically the OPDs of SGPGI. *Total we have served 33,000 pts via 30 departments*
2. Semi-Emergencies have been identified via these Tele-OPD services and needy patients admitted after COVID testing
3. Electronic COVID Care Support Service (eCCS) has also been provided to Doctors of the state to better manage their COVID patients

Single Point Entry Through State Emergency Government Micro Plan

SGPGIMS has created a single point entry plan through two-point screening area by which COVID suspects and non-suspects are identified and are accordingly managed. A separate Holding Area of 134 beds in SGPGI has been created for admission of non-suspects who are mandatorily tested for COVID and after testing negative for COVID, they are admitted to the destination wards for further management. This minimizes the chances of inadvertent admission of asymptomatic COVID patients in Main SGPGI wards/ICUs.

Creation of Isolation Facility for HCWS

A 50-bed facility has also been created for admission of asymptomatic/minimally symptomatic HCWs who do not have facility for Home Isolation.

Quarantine Facilities

As the number of patients are increasing so is the number of HCWs which are being deployed at RCH. All the guest houses and accommodation areas were used and despite that there was shortage of quarantine space for our HCWs. *Responding to that challenge the institute has created 246 beds in-house Active Quarantine Facility for the HCWs.*

All aspects of housing, food, transportation, sanitation and security of HCWs have been taken care of in this facility so that HCWs do not face any limitations and report to their duties in time and with full energy.

Round The Clock Ancillary Services

1. A State of art 24-hour Lab service has been established at RCH to provide the laboratory requirements of admitted COVID patients in RCH.
2. A 24 hours HRF which is an in-house pharmacy which meets the demand of all consumable and non-consumable medical and surgical items which are used in management of COVID patients.
3. Kitchen Services: SGPGI also provides disease specific specially designed diets to meet the nutritional demand of patients. High protein and comorbidity specific diets are also prepared with special consultation with nutritionists and endocrinologists.

Microbiology Covid Testing Facilities

1. Total samples analysed to date
 - i. RT-PCR-over 700,000
 - ii. TrueNat-6500

Convalescent Plasma Therapy

This service and other Blood transfusion related services are also being provided by the Department of Transfusion Medicine routinely round the clock to COVID patients admitted in RCH which has been found to be very useful in management of seriously ill COVID patients.

Refreshment Zone For HCWS

A refreshment zone is being created for HCWS just after they leave duties in RCH so that they do not immediate dehydration or exhaustion after a hectic and stressful duty shift.

Distribution of Welcome Kits

A small kit containing daily toiletries is provided to all patients getting admitted to isolation ward as a token of help in case they do not get time to have preparation before getting admitted.

Expert Monitoring Teams

More than 10 teams of experts of SGPGI have been sent to different medical colleges [Gorakhpur, Kanpur, Prayagraj, Meerut, Jhansi, Agra] as per the directions of State Government to:

1. Protocolize COVID clinical management at these centers
2. Guide improvements in COVID Hospital management
3. Guide improvements in COVID-ICU-Care
4. Formulate action plans to bring down COVID-Hospital/ICU mortalities

Patient Feedback Forms

The institute has also designed a feedback form for all the patients admitted to the RCH so that we can improvise upon the services provided by us.

High Level Committee with Department of Medical Education, UP

The institute has also been nominated for formation of a high-level committee to provide inputs to Department of Medical Education, State Govt regarding strategies to improve COVID-Care in the state and capacity building.

Medical Ethics

Ethics in medical practice is an area which is very close to the Honourable Minister of Medical Education, UP Govt, Sri Suresh, Khanna ji. He has desired that the 04 premier medical Institutes of Lucknow, viz. SGPGIMS, KGMU, RMLIMS and the Cancer Institute, should conduct a series of Programs on “Medical Ethics”, to create an awareness about it in the medical students and health care professionals, so that it is adopted on a day to day to basis in the medical practice of the State of UP.

SGPGI has initiated a series of programs on “Medical Ethics” on a monthly basis. The first two programs have been on the theme of “Medical Ethics in the Time of COVID-19 Pandemic”.

Advisory to State Govt Regarding Covid Care

1. Revised Discharge Policy
2. Incorporation of Ivermectin in prophylaxis to HCWS and high-risk contacts
3. Augmentation of L2 and L3 facilities
4. Utilizing ECHO platforms for spread of education related programs

Tele-ICU

A memorandum of understanding (MoU) was signed and exchanged in presence of Honorable Chief Minister, UP, Shri Yogi Adityanathji, on 14th December, 2020, on the occasion of the 37th Foundation Day, between Power Grid Corporation India Ltd & SGPGIMS regarding creation of Tele-ICU services for the state of UP based on HUB & SPOKE model. Power Grid Corporation India Ltd under the Corporate Social Responsibility (CSR) fund has generously allocated approximately 07 Crore for this ambitious Tele-ICU project. SGPGIMS will be the HUB for this Tele-ICU service under which a Central Command Center will be created to bolster the ICU services in the 06 state medical colleges of Gorakhpur, Kanpur, Prayagraj, Meerut, Jhansi and Agra, which will be the SPOKES. Using the full potential of Telemedicine under this Tele-ICU Critical Care Service from SGPGIMS, the state will receive a major impetus towards improving the ICU services. Success gained in this segment is bound to usher in both vertical and horizontal growth in health care in the state.

Covid Vaccination

The institute is actively gearing itself to institute the COVID Vaccination Drive in SGPGI for its HCWs and patients as desired by the State Government. This we believe will actively stem the COVID onslaught and will reduce the incidence of severe-COVID cases.

RESEARCH CELL

Activities:

Extramural project

S.No.	Year	No. of Projects	Sanctioned Amount
1	2020	21	7,13,29,335

Intramural project

S.No.	Year	No. of Projects	Sanctioned Amount
1	2020	43	2,09,76,990

Ph.D. students

S.No.	Year	No. of students
1	2020	13

Multicentric Drug/device trials- 2020

S. No.	Total
1	04

Short Term Training - 2020

S. No.	Medical	Non-Medical	Total
1	08	22	30

Visiting Professor - 2020

S. No.	International	National	Total
1	06	-	06

CME/Workshop - 2020

S. No.	International	National	Total
1	02	08	10

First Research Day was organized by the Research Cell on the occasion of Institute Foundation Day on 13th December, 2020. The awards to the following best researchers have been presented during the Institute's Foundation Day on 14th December, 2020:

For Medical Specialties:

1. Prof Anshu Srivastava, Dept. of Pediatric Gastroenterology
2. Dr. Kirti Naranje, Addl Professor, Dept of Neonatology
3. Dr. Shagun Misra, Assoc Professor, Dept of Radiotherapy
4. Dr. Moinak Sen Sharma, Asstt Professor, Dept of Pediatric Gastroenterology

Awards for Surgical Specialties:

1. Prof. Gaurav Agarwal, Dept of Endocrine Surgery
2. Dr. Anant Mehrotra, Addl Professor, Dept of Neurosurgery
3. Dr. Supriya Sharma, Assoc. Professor, Dept of Surgical Gastroenterology

Awards for Pre or Para Clinical/Basic Science Specialties:

1. Prof. Soniya Nityanand, Dept of Hematology and Stem Cell Research Centre
2. Dr. Khaliqur Rehman, Addl Prof., Dept of Hematology
3. Dr. Alok Kumar, Assoc. Professor, Dept of Molecular Medicine & Biotechnology
4. Dr. Rohit Anthony Sinha, Asstt Professor, Dept of Endocrinology

“Prof. SS Agarwal Award for Excellence in research” was awarded to **Dr. PV Sai Saran**, DM Student, Department of Critical Care Medicine, SGPGI, during Convocation 2020

“Prof. SR Naik Award for outstanding research investigator” was awarded to **Prof. Uday Chand Ghoshal**, Department of Gastroenterology, SGPGI, during Convocation 2020

“Prof. RK Sharma Award for best DM and MCh student” was awarded to the following students during Convocation 2020

1. **Dr. Hafis Muhhamad VK**, DM Student, Department of Clinical Immunology and Rheumatology
2. **Dr. Valiveru Chakrapani Ramya**, M Ch student, Department of Endocrine Surgery
3. Following PhD students were awarded Degree of Doctor of Philosophy during Convocation 2020:
4. **Ms. Manju Kumari**, PhD student; Guide- Dr. Swasti Tiwari, Dept of Molecular Medicine and Biotechnology
5. **Ms. Shruti Bhattacharya**, PhD student; guide-Prof. Amita Agarwal, Dept of Clinical Immunology and Rheumatology
6. **Ms. Ankita Singh**, PhD student; guide-Prof. Amita Agarwal, Dept of Clinical Immunology and Rheumatology
7. **Ms. Ekta Minocha**, PhD student; guide-Prof. Soniya Nityanand, Dept of Hematology
8. **Ms. Priyanka Vishwakarma**, PhD student; guide-Prof. Sarita Agarwal, Dept of Medical Genetics
9. **Ms. Kamlesh Kumar Gupta**, PhD student; guide-Prof. KN Prasad, Dept of Microbiology
10. **Ms. Nisha Raj**, PhD student; guide-Dr. Ram Nawal Rao, Dept of Pathology
11. **Ms. Sanjay Singh**, PhD student; guide-Prof. KN Prasad, Dept of Microbiology

List of Extramural projects

S. No	Title of the project	Name of PI & Department	Funding Agency	Sanctioned year	Duration	Sanctioned Amount
1.	Investigating molecular and cellular mechanisms of therapy-induced plasticity in colon cancer	Dr. Jalaj Gupta Hematology	ICMR	2020	2020-2023	15,00,000

2.	Estimation of Burden of Disease from Viral Hepatitis in South-East Asia Region	Dr. Amit Goel Gastroenterology	WHO	2020	2020	USD 9000 (Rs. 6,81,660)
3.	Childhood Diabetes-District outreach as a model for decentralized care and education through use of telemedicine	Prof. VL Bhatia Endocrinology	DST	2020	2020-2023	59,86,440
4.	The production of Zirconium-89 and the Development of Zr-89 Radiopharmaceuticals	Dr. Manish Dixit Nuclear Medicine	AIEA, Vienna, Austria	2020	2020-2023	10500 EUR per year (8,62,890 1 ST Year-2020)
5.	Probing the dynamic balance of histone H2AUb1 regulatory axis in hypertrophic cardiomyopathy and early heart development	Dr. Anshika Srivastava Medical Genetics	DBT	2020	2020-2023	60,61,600
6.	Establishment of Telemedicine Hub under Ayushman Bharat	Prof. S.K. Mishra Telemedicine	NHM, Govt of UP	2020	2020-2021	21,66,000
7.	Alternations in immune, inflammatory and endocrine responses in Indian patients with diabetes infected with SARS-CoV-2 and its clinical consequences	Dr. Saroj K Sahoo Endocrinology	DST-SERB	2020	2020-2023	73,26,240
8.	Relationship between digestive symptoms and morbidity, mortality and fecal excretion of the virus among patients with COVID-19: A possible diagnostic role of fecal sample and potential for feco-oral transmission	Prof. U.C. Ghoshal Gastroenterology	DBT	2020	2020-2022	44,33,040

9.	Targeting mitophagy in breast carcinogenesis through mitochondrial-mediated mechanisms	Dr. Lokendra K Sharma Molecular Medicine & Biotechnology	ICMR	2020	2020-2023	16,62,466
10	Developing “Breast Tumor Educated Monocytes (Br-TeMo)” Signature pattern of TRIMs (Innate Immune Regulators) as Bio-markers for Early Prediction of Breast Cancer Progression and Metastasis”.	Prof. Gaurav Agarwal Endocrine Surgery	DST-SERB	2020	2020-2023	43,13,500
11	Indian Consensus on Irritable Bowel Disease	Prof. U C Ghoshal Gas-troenterology	Indian Motility & Functional Diseases Association, Hyderabad	2020	2020-2021	6,00,000
12	Use of Next Generation Sequencing Techniques in Identification of Causative Etiology in Fetuses with Abnormal Ultrasound Findings and Identification of Novel Genes in Lethal Disorders	Dr. Deepti Saxena Medical Genetics	ICMR	2020	2020-2023	31,45,966
13	To evaluate the efficacy of BCG in reducing incidence and severity of Covid-19 in the high risk population (BRIC): a phase III multicentric, quadruple blind randomized controlled trial	Prof. Sushil K Gupta Endocrinology	ICMR	2020	2020-2022	47,34,656

14	Deciphering the role of Bone Marrow Mesenchymal Stem Cell derived Exosomes in the Pathobiology of Aplastic Anemia	Prof. Soniya Nityanand Hematology	DBT	2020	2020-2023	56,87,240
15	Strategies Towards Early Diagnosis & Improving Treatment Adherence in Thalassemia	Dr. Anshul Gupta Hematology	National Health Mission (NHM)	2020	2020-2021	30,00,000
16	Strategies for Early detection and counseling of Thalassemia carriers	Dr. Ruchi Gupta Hematology	National Health Mission (NHM)	2020	2020-2021	13,50,000
17	Characterization of epidemic plasmids, elucidation of evolutionary mechanism in carbapenem resistant Gram-negative bacteria and strategies to overcome carbapenem resistance	Dr. Chinmoy-Sahu Microbiology	ICMR	2020	2020-2023	12,24,310
18	Strategies towards comprehensive Hemophilia Care Services in Uttar Pradesh	Dr. Dinesh Chandra Hematology	National Health Mission (NHM)	2020	2020-2021	1,02,10,000
19	Generation Bioengineered Human Pancreatic Organoid Model for Environmental Diabetogens Screening stem towards targeted therapy for Diabetes	Dr. Vinod Verma SCRC Hematology	ICMR	2020	2020-2023	19,16,667
20	Functional characterization of rare founder alleles causing neurodevelopmental disorders for biomarker identification and community genetics surveillance	Dr. Anshika Srivastava Medical Genetics	DBT-Ramalingaswamy re-entry fellowship	2020	2020-2025	42,50,000

21	Incidental Gall Bladder Cancer and other Pre-malignant Gall Bladder condition in India towards early detection of Gall bladder Cancers	Prof. Anu Behari, Surgical Gastroenterology	ICMR	2020	2020-2023	2,16,660 (1 st year)
					Total	713,29,335

List of Intramural projects

S. N	Title of the project	Name of PI & Department	Duration	Sanctioned Amount
1	Characterization of Circulating Microparticles in ANCA Vasculitis and their role in inducing endothelial injury and Glomerulonephritis	Dr. Durga P Misra Clinical Immunology & Rheumatology	15.10.2020 to 14.10.2022	5,00,000
2	Indigenous Technique to Isolate Pancreatic Stellate Cells and Evaluation of eGMP/PKG1/2/PPM1A/SHP-2 pathways in pancreatic Fibrosis	Prof. Vikas Agarwal Clinical Immunology & Rheumatology	15.10.2020 to 14.10.2022	5,00,000
3	Evaluating the role of liquid chromatography-tandem mass spectrometry in therapeutic monitoring of methotrexate in acute Lymphoblastic Leukemia	Dr. Naresh Tripathy Hematology	15.10.2020 to 14.10.2022	5,00,000
4	Determination of cell of origin subtypes in diffuse large B cell Lymphoma by Immunohistochemistry and gene Expression	Dr. Anshul Gupta Hematology	15.10.2020 to 14.10.2022	5,00,000
5	Study to Detect Inflammatory Biomarker in Gut and Inflammatory Response in Serum in COVID-19 Positive Patients	Prof. Ujjala Ghoshal Microbiology	15.12.2020 to 14.12.2022	5,00,000
6	Comparison of Cytotrophoblast Cell-Fusion Markers in Placenta of Early and Term Gestation (A Pilot Study)	Dr. Santosh K Verma Molecular Medicine & Biotechnology	15.12.2020 to 14.12.2022	5,00,000
7	Validation of 'Hi-Screen' test for COVID-19 Developed at SGPGI	Prof. Swasti Tiwari Molecular Medicine & Biotechnology	15.12.2020 to 14.12.2022	4,80,000
8	Serum Galactose-Deficient IgA1 as a Biomarker for Monitoring Disease Activity and Response to Therapy in IgA Nephropathy	Dr. Monika Yachha Nephrology	15.12.2020 to 14.12.2022	5,00,000

9	Evaluation of Biochemical and Radiological Features predicting Pulmonary Fibrosis in Patients with COVID-19 Disease	Dr. Ajmal Khan Pulmonary Medicine	15.12.2020 to 14.12.2022	5,00,000
10	A pilot study on making a repository for whole blood derived convalescent plasma as an alternative to apheresis convalescent plasma from blood donors with virologic or serologic evidence of prior infection with SARS-CoV-2	Prof. Anupam Verma Transfusion Medicine	15.12.2020 to 14.12.2022	4,90,000
11	Study of IL-6 and IL-17 in the fibroblast derived from Chronic Antibody mediated Rejection (CABMR) in renal allograft Recipient	Prof. Narayan Prasad Nephrology	15.12.2020 to 14.12.2022	5,00,000
12	Biochemical performance and clinical outcomes of the "high sieving" polyethersulfone dialyzers in comparison to standard dialyzers	Dr. Manas R Patel Nephrology	15.12.2020 to 14.12.2022	5,00,000
13	Role of Immunohistochemistry in Subtyping and Differentiating Progressive Familial Intrahepatic Cholestasis (PFIC) from other Causes of Pediatric Cholestatic Diseases	Dr. Neha Nigam Pathology	15.12.2020 to 14.12.2022	5,00,000
14	Detecting Long Non-coding RNA Biomarkers in Prostate Cancer Liquid Biopsies	Dr. Sanjoy Kumar Sureka Urology	15.12.2020 to 14.12.2022	5,00,000
15	Comparative Study of the Cytogenetic and Immunophenotypic Profile of Plasma Cells with Respect to serum free light Chain Assay in Plasma Cell Proliferative Disorders	Dr. Manish K Singh Hematology	15.12.2020 to 14.12.2022	5,00,000
16	Cytomegalovirus Reactivation in Critically Ill Immunocompetent Patients with Septic Shock	Dr. Atul Garg Microbiology	15.12.2020 to 14.12.2022	5,00,000
17	Effects of Catecholamine Excess on Glucose and fat Metabolism in Pheochromocytoma & Paraganglioma Patients and Their Reversal Following Surgical Cure: A Prospective Cohort Study	Prof. Gaurav Agarwal Endocrine Surgery	15.12.2020 to 14.12.2022	4,74,335
18	Diagnostic Utility of ADAMTS-13 Assay and PLASMIC Score in Patients of Thrombotic Microangiopathies	Dr. Dinesh Chandra Hematology	15.12.2020 to 14.12.2022	5,00,000

19	To Evaluate the Role of Cell Free DNA Gall Bladder Cancer as A Diagnostic	Dr. Ashish Singh Surgical Gastroenterology	25.12.2020 to 24.12.2022	4,85,00
20	Role of Mitochondrial Dynamic Proteins (fussion) in North Indian Colorectal Cancer Patients	Prof. Ashok Kumar Surgical Gastroenterology	25.12.2020 to 24.12.2022	5,00,000
21	Association of Metabolic Syndrome, Insulin Resistance, Inflammation and Oxidative Stress with Protein energy wasting in pre-dialysis Chronic Kidney Disease Patients (stages 2 to 5)	Prof. Anita Saxena Nephrology	25.12.2020 to 24.12.2022	4,97,304
22	Micro-RNA Mediated Regulation of Th17 and Treg Cells in Aplastic Anemia and their correlation with Immunosuppressive Therapy	Dr. Ruchi Gupta, Hematology	25.12.2020 to 24.12.2022	5,00,000
23	To Assess the Clinico-Radiological, urodynamic Outcome and Metabolic Effects of Surgical	Dr. Ved Prakash Maurya, Neurosurgery	25.12.2020 to 24.12.2022	5,00,000
24	Evaluation of Eosinophilic Inflammation in patients of Chronic Obstructive Pulmonary Disease	Dr. Mansi Gupta Pulmonary Medicine	25.12.2020 to 24.12.2022	4,90,000
25	To compare the Implementation of SGPGI enhanced recovery program including goal directed fluid therapy Vs standard therapy Vs major abdominal surgeries", a randomized prospective study	Prof. Sandeep Sahu Anaesthesiology	25.12.2020 to 24.12.2022	5,00,000
26	PDE-5 Inhibitor Tadalafil as Anti-Inflammatory and Antifibrotic agent for improving bladder dynamics in case of Posterior Urethral Valve	Prof. M.S. Ansari, Urology and Renal Transplantation	25.12.2020 to 24.12.2022	5,00,000
27	Molecular Characterization of Juvenile nasopharyngeal Angiofibroma	Dr. Amit Keshri Neu- ro-otology	25.12.2020 to 24.12.2022	5,00,000
28	Therapeutic Application of the $^{64}\text{CuCl}_2$ an Auger Electron-emitting PET Agent in Recurrent High-Grade Brain Tumors	Prof. Sanjay Gambhir, Nuclear Medicine	25.12.2020 to 24.12.2022	5,00,000
29	Does Use of a Dural Sealant during endoscopic endonasal repair of dural defect prevent Cerebrospinal Fluid (CSF) Leak	Prof. Awadhesh Kumar Jaiswal, Neurosurgery	25.12.2020 to 24.12.2022	5,00,000
30	Comparative Analysis of ^{68}Ga -PSMA PET/CT with $^{99\text{m}}\text{Te}$ -PSMA Gamma Camera Imaging in Recurrent Carcinoma Prostate	Dr. Manish Ora Nuclear medicine	25.12.2020 to 24.12.2022	4,50,000

31	Role of Factor-H Related Proteins in Complement-3 Glomerulopathy	Dr. Pallavi Prasad, Pathology	25.12.2020 to 24.12.2022	4,56,000
32	Evaluation of TGF- β Induced canonical and non-canonical fibrotic pathways in fibroblasts derived from Stricture Esophagus	Dr. Latika Gupta Clinical Immun. and Rheumat.	25.12.2020 to 24.12.2022	5,00,000
33	Duo-PAP vs Nasal Continuous positive airway pressure in preterm neonates with respiratory distress syndrome – A Randomized Control Trial	Dr. Kriti M. Naranje, Neonatology	25.12.2020 to 24.12.2022	4,99,971
34	Randomized Trial of phacoemulsification versus laser peripheral Iridotomy in patients with Primary Angle Closure Disease	Dr. Vaibhav K. Jain, Ophthalmology	25.12.2020 to 24.12.2022	5,00,000
35	Clinical, Radiological Histopathological Characterization of Medulloblastoma Consensus and its application in Molecular Subgroup-based Risk-Adjusted Therapy	Dr. Kamlesh Singh Bhaisora, Neurosurgery	25.12.2020 to 24.12.2022	4,85,000
36	Correlation of Oncogenic Viruses in Papillary Thyroid Carcinoma	Dr. Gyan Chand Endocrine Surgery	25.12.2020 to 24.12.2022	5,00,000
37	Novel Synthetic Route of Precursor synthesis for (18F)-Aucimmin PSMA PET Tracer: Chemistry Methodology Innovation	Dr. Manish Dixit Nuclear Medicine	25.12.2020 to 24.12.2022	5,00,000
38	Development of Non-Invasive Biomarker for early diagnosis of clear cell renal cell carcinoma (ccRCC) and Identification Therapeutic Target for the Disease	Dr. Naveen K. Gautam Urology and Renal Transp.	25.12.2020 to 24.12.2022	5,00,000
39	Study The Effect of HPV Infection on Pregnancy Outcome	Dr. Amrit Gupta, MRH	25.12.2020 to 24.12.2022	5,00,000
40	Prevalence of SARS CoV 2 antibodies in Health care workers to determine Infection Exposure	Dr. Rahul Katharia, Transfusion Medicine	25.12.2020 to 24.12.2022	4,93,00
41	Evaluation of Peripheral Blood Leukemic Stem Cells count and Leukemic Stem Cell/Normal hematopoietic Stem Cells Ratio as a Predictor of Tyrosine Kinase Inhibitor Response in Chronic Myeloid Leukemia	Dr. Khaliqur Rahman, Hematology	25.12.2020 to 24.12.2022	4,75,000

42	Targeting of Glioblastoma Stem Cells through modulation of mitochondrial mechanisms for developing effective Therapeutic Approaches	Dr. Lokendra K. Sharma Molecular Medicine & Bio.	25.12.2020 to 24.12.2022	5,00,000
43	Transcutaneous Bilirubinometry from patched skin and its correlation with serum bilirubin during and after phototherapy in infants: A Prospective Observational Study	Dr. Anita Singh Neonatology	25.12.2020 to 24.12.2022	2,15,380
			Total	2,09,76,990

List of Ph.D. students-2020

S N	Name of student	Name of Guide & Department	Date of joining	Funding Agency
1	Mr. Pranshu Srivastava	Dr. Lokendra K Sharma Molecular Medicine & Biotechnology	14.01.2020	UGC
2	Ms. Shubhi Kamthan	Prof Vinita Agarwal Pathology	28.07.2020	Project
3	Mr. Biswajit Sahoo	Prof. Swasti Tiwari Molecular Medicine & Biotechnology	28.07.2020	Project
4	Ms. Sonam Gautam	Prof. Narayan Prasad Nephrology	05.08.2020	Project
5	Ms. Archana Tewari	Dr. Rohit A Sinha Endocrinology	05.08/2020	Project
6	Mr. Anubhav Srivastava	Dr. Lokendra K Sharma Molecular Medicine & Biotechnology	10.08.2020	Project
7	Ms. Sukhanshi Khandpur	Prof. Swasti Tiwari Molecular Medicine & Biotechnology	17.08.2020	Project
8	Ms. Nisha Kushwaha	Dr. Santosh K Verma Molecular Medicine & Biotechnology	20.08.2020	CSIR
9	Mr. Shashank Mathur	Dr. Lokendra K Sharma Molecular Medicine & Biotechnology	24.08.2020	Project
10	Ms. Anjali Sharma	Dr. Alok Kumar Molecular Medicine & Biotechnology	21.09.2020	ICMR
11	Ms. Shivani Kumari	Dr. Naveen Kumar Gautam Urology & Renal Transplantation	25.09.2020	CSIR-UGC
12	Ms. Shreya Srivastava	Dr. Raghavendra L Pathology	12.10.2020	CSIR-UGC
13	Ms. Shivika Guleria	Prof. Amita Aggarwal Clinical Immunology & Rheumatology	16.10.2020	CSIR-UGC

Drug Trial Approval Chart - 2020

S. No.	Title of Trial	Name of PI & Dept.	IEC Clearance Date	Effective Date of CTA	Insurance Company Validity	Name of Sponser
1	Flow-Effect of Semaglutide Versus Placebo on the Progression of Renal Impairment in subjects with Type 2 diabetes and Chronic Kidney Disease	Prof. Narayan Prasad, PI, Dept. of Nephrology	13.12.2019	04.03.2020	01.09.2019 to 31.08.2020	Novo Nordisk India Pvt. Ltd., Bangalore
2	A Multi-center Randomized Controlled, Phase III study to Evaluate the Clinical Outcomes and Safety of Tocilizumab Along With Standard of Care in Patients with Cytokine Release Syndrome Associated with COVID-19 Infection	Prof. Vikas Agarwal, Clinical Immunology	29.06.2020	25.07.2020	17.05.2021	JSS Medical Research India, Pvt. Ltd., Faridabad
3	Multicentric, Phase -IV, Randomized Double blind, placebo controlled trial Bowel Syndrome in Adults aged 18 years to 65 years	Prof. Uday C. Ghoshal, Gastroenterology	29.06.2020	16.10.2020	19.02.2021	Medclin Research Pvt. Ltd.
4	A 12-week phase 3, randomized, double-blind, placebocontrolled..... Adult Chronic migraine Patients	Prof. J. Kalita, Neurology	19.09.2020	16.12.2020	31.12.2020	Novartis (I) Pvt. Ltd.

List of Visiting Professor / Visiting Scientist / Departmental Guest (2020)

S. No.	Name	Department	Address	Duration	National / International
1.	Dr. Rajendra Singh	Telemedicine	Professor of Pathology, Icahn School of Medicine at Mt. Sinai, New York	17 th -18 th January, 2020	International
2.	Mrs. Nevart Chrisinian	Neonatology (Under MOU)	Canadian Staff Nurse from Mount Sinai Hospital, Canada	11 th to 18 th January, 2020	International
3.	Prof. Sanjay Patole	Neonatology	Senior Consultant, KEM Hospital, University of Western Australia	3 rd February, 2020 – 8 th February, 2020	International

4.	Dr. Charulata Deshpande	Medical Genetics	Manchester Centre for Genomic Medicine, U.K.	29 th Feb. 2020	International
5.	Dr. Atul Gaur	Anaesthesiology	Consultant Anaesthetist, University Hospital of Leicester NHS Trust, Leicester, UK	30 th June, 2020	International

CME/Workshops Programme List

S. No.	Title	Name of Organizing Secretary/ Chairman	Department	Date	State / National / International
1.	SGPGI Breast Course 2020	Prof. Gaurav Agarwal	Endocrine Surgery	15 th Feb. to 16 th Feb. 2020	National
2.	ISN National Conference	Prof. Narayan Prasad Nephrology	Nephrology	28 th Feb. 1 st March, 2020	National
3.	Annual Neurosurgery Oration	Prof. Sanjay Behari	Neurosurgery	28 th Feb. 1 st March, 2020	National
4.	ISA CS PG ASSEMBLY 2020	Prof. Anil Agarwal	Anaesthesiology	13 th - 16 th March, 2020	National
5.	XIV National Autoantibody Workshop	Prof. Amita Aggarwal	Clinical Immunology	19 th - 22 nd March, 2020	National
6.	FOGSI Genetics & Fetal Medicine Course	Prof. Mandakini Pradhan	MRH	3 rd April, 2020 to 8 th April, 2020	National
7.	International Conference & Workshop on Endocrine Surgery Global	Prof. S.K. Mishra	Endocrine Surgery	7 th - 11 th September, 2020	International
8.	Annual National Conference of Indian Society of Primary Immunodeficiency	Prof. Amita Aggarwal	Clinical Immunology	10 th - 11 th October, 2020	National
9.	16 th International Telemedicine Conference (TELEMED-CON-2020)	Prof. S.K. Misra	Nodal Officer, Telemedicine	18 th -22 November, 2020	International
10.	Annual Conference of SI-AMG 2020	Prof. Shubha R. Phadke	Medicine Genetics	27 th to 29 th November, 2020	National







SCHOOL OF TELEMEDICINE

1. Ministry of Health & Family Welfare, Govt. of India designated the School of Telemedicine & Biomedical Informatics (STBMI), SGPGIMS as the National Resource Center (NRC) and HUB in the year 2011 for the National Medical College Network, a green field pan India initiative. Since then the MOH&FW has been providing Grant-in-Aid for the Human Resources and maintaining and upgrading the infrastructure at the STBMI. Highly advanced technical infrastructure has been created to support telehealth care and distance education and skill sharing such as Intelligent Digital Operation Theatre, E-Tumour Board, Immersive learning theatre, Tele-surgery studio etc. Around 60 medical colleges are being networked to SGPGI on the back bone of National Knowledge Network. This facility is only of its kind in the country. Six medical colleges of U.P. are part of this network.
2. SGPGI has been assisting Telemedicine and eHealth Division, Ministry of Health & Family Welfare, Govt. of India to implement various telehealth projects like CollabDDS Online Radiological Services (CORS) on pan India basis in collaboration with National Informatics Center.
3. NRC, SGPGI played key role in establishment & operation of Telemedicine facilities at District Hospital, Baharaich, Raibareli and Community Center at Bachrawana.
4. SGPGI signed MOU with National Thermal Power Corporation (NTPC) for establishment of Telemedicine facilities at their Unit Hospitals. Currently at two locations i.e. Rihand and Meja are under implementation phase.

Vision of SGPGI Telemedicine Programme: 2020 & Beyond

1. Setting up Best Practices in Tele-care for population at large and Tele-education to supplement knowledge and skill gap of needy healthcare professionals in the country and developing world at large.
2. Developing trained human resources in the fields of Digital Health through structured curriculum based courses, sponsored training, fellowship etc.
3. Advancing various e learning modules over National Medical College Network and Cloud enabled mobile learning programme. Popularizing the modules developed at SGPGI.
4. Designing and deploying ICT integrated collaborative Learning Work Spaces.
5. Setting up Advanced Telemedicine Research Programmes aiming at Population health, Safety of patients, Tele-epidemiology, Surgical Informatics etc.
6. Introducing concept of Virtual Hospital and outreach programme-Rural Access to Affordable Healthcare Adopting Telemedicine (RAAHAT) in collaboration with Institute and Health development of GoUP.
7. Expanding Medical College Network from existing three medical colleges to all the medical colleges of the state.
8. Creating a Center of Excellence in Digital Health in India and applying WHO to declare the center as WHO Collaborating Centre.

Electronic Covid Care System (eCCS)

eCCS network has been started at Sanjay Gandhi PGI, Lucknow on 1st May 2020 with the aim to provide decentralized care of patients suffering from COVID-19 / non- COVID-19 disease. Tele-consultation and remote clinical decision support is being provided from the panel of four specialist doctors sitting at Telemedicine, SGPGI, Lucknow from 8.00 AM to 8.00 PM to the remote doctors treating patients suffering from COVID-19 / non-COVID-19 disease throughout the state of Uttar

Pradesh. Total number of patients benefited to this system is 4062.

Electronic Outpatient Dept. Clinic (eOPD) network of SGPGI

Electronic Outpatient Dept. Clinic (eOPD) network of SGPGI: eOPD facility has been started on 11th May 2020 in which individual rooms were allotted on the first floor of School of Telemedicine and Biomedical Informatics, SGPGI, Lucknow to 22 individual departments of the institute. Four other departments are conducting their eOPD in preexisting facilities in their own departments with the aim to provide tele-follow up of old / registered patients. Doctors are conducting patient care from 9.30 AM to 1.30 PM from Monday to Saturday. A total of number 41705 patients benefited using this system till September 2020.

eLearning / Online Teaching Support

All the departments of SGPGI initiated their classes and eLearning activities using Telemedicine infrastructure. User access to each students of College of Nursing and College of Medical Technology given and teachers sitting at STBMI complex imparted the course material to the student. Senior Resident (SR) teaching / case discussion also imparted through online using Telemedicine infrastructure. A total of 12098 sessions and 70,808 participants benefitted.

Online Examination of D.M., M.Ch. & PDCC students

All the exit examination of MD/D.M. , M.Ch. and PDCC program running at different departments is being conducted using Telemedicine infrastructure in compliance with guidelines of MCI, Govt. of India. External expert as approved by the competent authority of Institute taking viva interview through clouded enabled VC solution. Archival of the whole proceedings are being done at STBMI server.

Establishment of Telemedicine Hub at SGPGI under Ayushman Bharat- PradhanMantri Jan Arogya Yojana (PM-JAY)

National Health Mission (NHM), Govt. of Uttar Pradesh has identified SGPGI as Telemedicine Hub to be connected six District Health & Wellness Centers (HWCs).

This project is being implemented through National Health Mission (NHM) at all the State & UTs. In the Uttar Pradesh five (05) Medical Institutions / Colleges have been identified at Telemedicine Hub (name as below) to provide Tele-consultation to the peripheral CHCs/ Sub Centers designated as HWCs Spoke node;

1. SGPGIMS, Lucknow
2. KGMU, Lucknow
3. IMS, BHU, Varanasi
4. MLB, Medical College, Jhansi
5. BRD, Medical College, Gorakhpur

Each of above hubs is to be connected at least 80 to 100 HWS nodes which has been decided by the State Health Mission. List of nodes to be connected with SGPGI Hub is attached for your kind reference only. MBBS Doctors to be recruited under the project are giving consultation to the public of Uttar Pradesh using eOPD software as per the directive of UP Govt. and three specialist doctor from SGPGI also will provide tele-consultation as per the roster to be prepared for this project. A total of 47699 patients (eSanjeevaniOPD) and 526 patients HWC have been benefited by the TM Hub Doctors till October 2020.

