Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow

Department of Radiodiagnosis

Course Offered

1-year certificate Course in Vascular Radiology

Introduction

Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow was established in late 1980s by the state of Uttar Pradesh to create a centre of Excellence for providing medical care, education and research of a high order. It is chartered to function as a University under the State Act.

The Institute has many super-specialities such as Cardiac Sciences, Renal Sciences, Neurosciences, Gastrosciences, Endocrinology medical and surgical specialities, besides Genetics, Immunology, Hematology, Pulmonary Medicine, Plastic surgery, Radiotherapy etc and has about 800 beds for indoor patients. These departments are well supported by investigative departments such as Radiodiagnosis, Pathology and Microbiology, Nuclear Medicine etc.

The department of Radiodiagnosis is well equipped with state-of-the-art equipment's such as 3T MR Scanner, 2 MDCTs (64 and 128 slices), 1 DSA system, 5 sonography units with Doppler facility, 1 Digital Radiology unit, 2 Computerised Radiography units, 2 Radiofluorograpny units, 2 Radiography units, 1 Mammography unit and 3 mobile radiography units.

The department is already conducting courses such as 3-year MD program (since 1992), 1-year Post Doctoral Certificate Course in Neuroradiology and 1-year Post Doctoral Certificate Course in Gastroradiology (Since 2002). Besides these teaching courses, the department also offers 3-year residency training to post graduate students and offers observership to students form other medical colleges in the state and also to practising radiologists in the government services in the state.

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Dissent Note Attached.

The department has established diagnostic and interventional Vascular services which were the first of its kind in the state. Over the years the department has been recognized as one of the best centres in the country for these types of procedures.

There is a place for trained vascular radiologists to deal with vascular diseases which can often present as emergencies such as hematemesis, melena, haemoptysis, post biopsy bleeds, post traumatic bleeds involving liver, spleen, kidneys etc. Also trained Radiologists are needed who can manage planned procedures including, arteriovenous malformations anywhere in the body, thrombolysis, tumour embolization with chemotherapy, angioplasty & stenting in stenotic arteries and veins, IVC filters in prevention of pulmonary thromboembolism and aortic stent grafts for aortic aneurysms etc.

Knowledge of the diseases, familiarity with numerous devices and agents, development of skills, ability to manage during and after the procedure are some of the special requirements which can not be provided during the small length of exposure during post graduate residency programme.

As the need grows in the country for the trained vascular radiologists, there is a place for imparting dedicated training to such persons so that the demand is met with the availability of such trained vascular radiologists.

The department is uniquely placed to start such a course owing to its trained faculty and well-equipped department. Most of the clinical departments where such patients are initially seen exist and followed up in the Institute and thus complete the management is offered.

Faculty

Dr Rajanikant R. Yadav, M.D., Additional Professor, Radiodiagnosis
Dr Archna Gupta, M.D., Professor, Radiodiagnosis
Dr Hira Lal, M.D., Professor, Radiodiagnosis
Dr Neeraj Jain, DNB, Associate Professor, Radiodiagnosis

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Eligibility Criteria

MD/ DNB Radiodiagnosis/ Radiology

Colour Coding

Global	GREEN
Regional	BLUE
National	ORANGE
Local (State)	PINK

Selection Criteria

As per the SGPGIMS PDCC Guidelines

Candidates:

2 per year

CURRICULUM FOR VASCULAR PDCC

Syllabus

1. Vascular System Anatomy – (Includes arterial and venous systems) - Region wise.
    a. Abdominal Aorta and its major visceral branches
    b. Renal vascular system
    c. Gastrointestinal vascular system
    d. Lower extremities
    e. Upper Extremities
    f. Inferior vena cava
    g. Superior vena cava
    h. Pulmonary vascular system
    i. Bronchial vessels
2. Physiology – As relevant to vascular system
3. Biochemistry – As relevant to vascular system
4. Pharmacology - As relevant to vascular system
5. Vascular Diseases – Region wise
    a. Atherosclertic Occlusive diseases
    b. Inflammatory Occlusive diseases
    c. Acute and Chronic thromboembolism
    d. Aneurysms and Pseudoaneurysms
    e. Arteriovenous malformations – congenital and acquired
    f. Post traumatic ruptures
    g. Post inflammatory leaks or ruptures
    h. Post procedure leaks or ruptures
    i. Neoplastic disorders
6. Non Invasive Diagnostic Procedures – CTA, MRA, Doppler USG
7. Invasive Diagnostic Procedures

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a. Percutaneous transfemoral, transbrachial or transradial angiography of aorta, kidneys, liver, spleen, stomach, duodenum, small and large bowel, upper and lower extremities, Pelvic organs and thorax etc
b. Direct puncture techniques in extremities & peripheral regions
c. Arterial and Venous sampling

8. Interventional Procedures
   a. Balloon Dilatation with or without stenting in various steno-occlusive arteries & venous pathologies
   b. Stent grafts in aneurysms (Aorta and other vessels)
   c. Trans arterial Embolization (Permanent or temporary) of the vessels in congenital or acquired situations with different materials.
   d. Direct puncture embolization techniques in superficial malformations, or aneurysms
   e. Thrombolysis

9. Interventional Devices and agents
   a. Catheters, Sheaths, guide wires & needles (Includes microcatheters and microwires, as well as Guiding Catheters)
   b. Embolic material – Onyx, NBCA Glue, Alcohol, Coils, Balloons, Gelfoam, Particles (PVA, Embospheres etc) and other devices
   c. Balloon catheters
   d. Stents and Stent Grafts
   e. Thrombolytic agents
   f. Snares and intravascular retrieval devices

10. Clinical Management (In patients & Outpatients)
   a. Preparing the patients for the procedure, including the investigations needed for the procedure
   b. Managing the patient during the procedure including pain management
   c. Managing the patients during adverse event
   d. Post procedure management including follow up (includes advise on antiplatelets etc) for admitted patients as well as outdoor patients.

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Postings

5 months – DSA

1 month – Doppler

1 and ½ months – MRI including cardiac MRI and MRA.

1 and ½ months – CT

1 month- cardiac CT

1 month – Trauma – Apex Trauma Center, SGPGI.

1 month – Cardiology 15 days /CVTS-7 days /Nuclear Medicine 7 days

Teaching Schedule

1. Seminars to be presented by candidate (1) month.
2. Journal club once a fortnight.
3. Cardiovascular-radiology conference once a week
4. Candidate will participate in research/training programme of the department.
5. Publication of 1 research papers in national / international journals is desirable.
6. Project work along with faculty associated.

Student will be required to maintain a logbook of the postings, Seminars and Case discussions. Assessment will be made form time to time and feedback will be given to the student for improvement

Exit Examination

As per the SGPGIMS PDCC Guidelines

Books and Journals:

Some of suggested reading is mentioned below. This list may be modified from time to time if needed.

Books

Textbook of Radiology by David Sutton, Churchill Livingston (Elsevier Science)

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Grainger and Allison's Textbook of Radiology, Churchill Livingston Publishers

Vascular Surgery by RB Rutherford, Saunders

Radiology Review Manual by W Danhert, Wolters Kluwer Publishers

CT and MRI of Whole Body by Hagga JR et al, Mosby/Elsevier Publishers

Practical Angiography by Pearse Morris, Williams & Wilkins, Baltimore

Abram's Angiography by S Baum, MJ Pantecost, Little Brown Co

Kandarpa's handbook of Interventional Radiologic Procedures

Vascular and Interventional Radiology by Karim Valji, Saunders

Image Guided Interventions – Mauro, Murphy et al, Elsevier Saunders

<u>Journals</u>

Cardiovascular and Interventional Radiology

Journal of Vascular and Interventional Radiology

American Journal of Roentgenology

Radiology

Clinical Radiology

British Journal of Radiology

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