Fellowship course in Liver Transplantation Anaesthesia and Critical care

Eligibility

Candidates who have passed Medical Post Graduate degree Course recognized by the Medical Council of India are eligible to join in Fellowship course in Liver Transplantation Anaesthesia and Critical Care. This includes M.D.(Anaes.)/DNB (Anaes). One year Post - PG experience is not required for admission to this course.

Age

No upper Age limit fixed for admission to Fellowship course in Liver Transplantation Anaesthesia and Critical Care

Duration

1 year (12 months) for MD/DNB students

Intake

2 students per year

Process for Fellowship Course

Advertisement in newspaper in month of June inviting application followed by interview.

Proposed Fees

Rs. 50,000/-

Stipend

Stipend according to post-MD courses.

Commencement of Course

Fellowship course will commence on 1st July of every year and the candidates are expected to get registered with this University within 30 days of their selection.

Curriculum

Fellowship course in Liver Transplantation Anaesthesia and Critical Care is a highly specialized and a demanding specialty where good clinical knowledge, evidence based practices and technical skills should all be integrated to achieve better outcomes. We propose to cover the curriculum in the form of organized lectures, bed side teaching and teaching whilst in theatres and other interactive sessions. The syllabus for the entire program is broadly outlined below. This list is only a general overview of the subject areas which will be covered but is not limited and will be expanded to include emerging topics of interest.

Anatomy, physiology, pharmacology and pathophysiology

- Anatomy of the liver and the portal system – includes segmental anatomy
- Physiology, Pharmacology and Pathophysiology
  - Hepatic physiology, functions and role in metabolism
  - Blood supply of liver and the regulatory systems
  - Drug handling by the liver
  - Functional reserve of the liver – measurement
  - End stage liver disease and clinical manifestations – an overview
  - Cardiovascular system in cirrhosis
  - Lung and the liver – pulmonary manifestations in liver disease
  - The autonomic nervous system – physiology and pharmacology
  - Kidneys in liver disease – physiology and pathology
  - Neurological Issues – Hepatic encephalopathy
  - Acid –base equilibrium
  - Coagulation system – changes in liver disease
  - Hypothermia and perioperative temperature control
  - Physiology of liver resection and regeneration
  - Interpretation of liver function tests
  - Immunosuppression – basics and commonly used drugs – doses, monitoring and

adverse effects commonly used drugs in patients with end stage liver disease

- Commonly used antibacterial, antiviral and antifungal drugs
- Reperfusion injury

Clinical sciences

- History and evolution of liver transplantation
- Concept of living donor transplantation
- Organ procurement and donation – basics
- Anaesthesia for retrieval in cadaveric transplantation
- Maintaining brain dead donor – optimization
- Portal hypertension - Etiology, pathophysiology, complications, diagnosis and portosystemic decompression treatments and outcome Medical management of portal hypertension and ascites
- Basic knowledge of functional liver diseases, parenchymal diseases and vascular abnormalities like Budd – Chiari syndrome Pathophysiological aspects of surgery in the cirrhotic patient
- Indications, contraindications and outcomes of liver transplantation – an overview
- Anesthesia for patients with hepatocellular disease – Risk assessment
- perioperative management Anaesthesia for major liver resections – Risk assessment and perioperative management
- Preoperative assessment of a liver transplant recipient
- Anaesthesia for liver transplantation in adults – preoperative evaluation and perioperative management
- Anaesthesia for liver transplantation in children - preoperative evaluation and perioperative management
- Reperfusion syndrome in clinical liver transplantation
- Transfusion medicine
- Hemodynamic monitoring – Invasive and Non-invasive hemodynamic monitoring
- Shock states
- Cardiopulmonary resuscitation
- Cardiac emergencies and their management
- Intensive care management of the liver transplant patient
- Infectious diseases and transplantation

Specialized training in each of the following areas

- Advanced cardiac life support
- Central venous catheterization (femoral, internal jugular and subclavian veins) – Ultrasound guided vascular access
- Right heart catheterization (pulmonary artery catheter placement)
- Arterial line placement (radial and femoral)
- Management of the difficult airway

- Arterial blood gas analysis and interpretation
- Use of Rapid Infusion System
- Other liver support devices and implications
- Work up of patients for transplantation - Preoperative Evaluation,
- discussion in the multidisciplinary listing meeting
- Coagulation monitoring including Thromboelastogram (TEG), ROTEM and Sonoclot
- Cardiac output monitoring – PiCCO, TOE, Swan-Ganz
- Mechanical ventilation
- Renal replacement therapy
- ICU care bundles
- Tracheostomy

Teaching scheme:

- **Lecture**: once a week

- **Seminars and journal clubs**: once a week. Student is expected to present 1 seminar and 1 journal clubs per month.

- **Clinical Case discussions**: Once a week. Student is expected to present & discuss 6 clinical cases in a year.

- **Ward rounds and postings:**
  Student will rotate through the postings in Liver transplant Intensive Care Unit and Critical Care unit. Each student will take ward rounds every day and take care of the patients admitted under the concerned section allocated to him.

- **Pre-anesthetic Clinic**

  Each student will attend Pre-anesthetic Checkup as and when the patient comes for it.

Examination:

- **Eligibility:** 80% attendance is compulsory

- **Log Book:** Each student will maintain logbook of the procedures performed, lectures, Seminars, journal clubs, Clinical Case discussions attended and presented by him and get it signed before appearing in examination.

- **Scheme:** Theory and practical examination will be concluded within 15 days of the end of the course.

Theory

- 2 papers of 100 marks each.
- First paper will include Liver transplantation Anaesthesia
- Second paper: Critical care related to Liver transplantation
- Passing percentage is 50%.

Practical

- **200 marks**
  Two clinical cases of 50 marks each
  Five problem oriented spots of 10 marks each.
  Viva of 50 marks.
- Passing percentage is 50%.
- Each examination will have one internal and one external examiner.

Announcement of results:

- Results will be announced within two weeks of the conclusion of the examination.

Award of Certificate:

- Certificate will be awarded by the GUTS.