

# Syllabus for FOGSI- Diploma in Fetal Medicine

## OBJECTIVE

This is a One year diploma program designed for creating and training for expertise in field of fetal medicine- a emerging super specialty.

Training is focused on tertiary level of care for the pregnant women and the fetus, which involves comprehensive, investigative workup of abnormalities, as well as appropriate management of confirmed abnormal cases. It will take care of diagnosis and management of a genetically affected fetuses including various detectable syndromes. This will provide in utero management of affected fetus whenever it is possible.

About Facility -

- Faculty shall be having fetal medicine expertise and 10 years of teaching experience in ultrasound and fetal medicine / have cleared fetal medicine course training from reputed institute. OB Gyn / Radiology teachers from teaching institutes
- Faculty will act as teachers, facilitators and expert authorities
- Self-directed efforts at learning and research data compilation will be encouraged
- Hands-on training and patient counselling and management under supervision is provided whenever it is applicable
- Internet access, CDs, video - clips, full-fledged library, class room teaching, interactive sessions, journal clubs and case presentations as per pre - fixed schedules.
- Collaboration with other specialties like Paed cardiologist, Cardiac surgeon, Paed neurophysician, Paed surgeon & clinical genetist if needed.
- Facility for genetic Laboratory or outsourcing with such laboratory to be arrange.

Course contents

1. Fetal development and physiology
2. Obstetric Ultrasonography
3. Diagnosis and Management (Investigations, case work up, counselling antenatal, intranatal and postnatal care) of fetal anomalies and growth problems
4. Fetal medicine expertise application in High risk pregnancy with materno-fetal morbidity

5. Genetic counseling
6. Autopsy and fetal dysmorphology study – if available.

## **Detailed course description**

### Human embryology and fetal physiology

- Stages of fetal development with time line of formation of organs
- Expected anatomical appearance and biometry as per gestational age
- Fetal Growth Restriction – diagnosis and follow up.
- Fetal Infections – Signs and follow
- Fetal Surveillance by different modalities in HRP
- Physiology and fetal complications and management of multifetal gestation

### Obstetric Ultrasonography

- Introduction and Physics of Ultrasound & Doppler. Settings and knobology of USG machines. Fetal echo settings
- I trimester USG (Normal / Abnormal)
- First Trimester screening of sono markers, preterm risk screening  
Preeclampsia screening. Biochemical screening including NIPT
- TIFFA scans – (Normal/Abnormal)
- Growth and Doppler scans
- Multi fetal pregnancy scans
- Cervical assessment
- Ectopic pregnancy

## Diagnosis and Management of fetal anomalies of all systems

- System wise fetal malformations
- Fetal syndromes
- Fetal markers of chromosomal abnormalities – 1<sup>st</sup> trimester and second trimester
  
- Defining the anomaly, understanding the anatomy/physiology and planning the most rational care plan in pregnancy after detailed work up and counseling the couple accordingly.

## Role of fetal medicine expert in High risk pregnancy with Materno-fetal morbidity like

- Management of PIH
- Gestational diabetes Mellitus
- Thyroid Disease in Pregnancy
- Liver diseases in pregnancy
- Cardiac disease and pregnancy
- Pituitary Problems and Pregnancy
- Multifetal pregnancy
- Case discussions of various situations
- Common questions asked by mother and referring doctors
- When to refer to other superspecialist for predelivery counselling and post delivery management option.
  
- Genetic counseling

## Essentials of genetics

- Basic of genetics
  - Structure of Gene

- Different Chromosomal abnormalities
  - Aneuploidy
  - Structural chromosomal abnormalities
  - Microarray / NGS and other genetic tests available and it's application
- Genetic disorders and laws of Mendelian inheritance
- Drawing a basic pedigree and counselling

#### Invasive Procedure:

To give detailed explanation like Indications, Procedure, side effects and complications and outcome of all invasive procedures under ultrasound guide. Practice on Models wherever possible is desired.

1. Diagnostic Procedures
  - CVS
  - Amniocentesis
  - Cord Blood sampling
2. Therapeutic Procedures
  - In Utero Transfusion
  - Selective fetal reduction
  - Amnio reduction
  - Amnio Infusion
  - Fetoscopy and fetoscopy guided procedures
  - Radiofrequency Ablation
  - Cord coagulation
  - ....

#### Expectations from the candidate

- To be regular in attendance, sincere in learning
- Understanding reporting and storage of images. Analyse archives and prepare case presentation / studies (3 Cases and 3 papers during tenure)
- Participate in counselling (In absence of patient – counselling suggest

a plan of management)

- To gather evidence-based data in favor of or against the various options in management
- To monitor the progress of cases which they are seeing.
- Regular classes will be held within the centre and also centrally – the students must attend at least 80% of these classes.
- During training - to fully comprehend and understand essential and fundamental principles relating to practice.
- Research - to submit at least three scientific paper for publications in Indexed journal and 3 paper /poster in state / National /International conference.
- Prepare a LOG book of Interesting cases, malformations with follow up and outcome whenever possible

## Assessment for Diploma and exam procedure

### Internal assessment (100 marks)

- Evaluation of the Log book. (10 marks)
- Academic activities as well as the presentations, Posters and papers in conference, Paper publications (15 Marks)
- Participation during teaching with presentations carried out by candidate.(75 marks)

### External assessment:

- Exams will be conducted by ICOG.
- Examiners shall be 1 or 2 internal examiners from ICOG centers / 1 or 2 external examiners from Non center fetal medicine experts.

### The written assessment: (100 marks)

- There shall be a written assessment at the end of 1 year.
- Theory paper shall carry 100 marks.
- MCQ (75 marks) and short questions of 5 marks each (25 marks)

Practical Exam: (100 marks)

1 hour oral examination (Viva) maximum 100 marks

Images, Videos, case situation for plan of investigations and management, instruments will be tool for oral examination

**Certification:**

Passing will be decided by 70% (210/300) marks

Based on the recommendations made by the examiners, successful candidate would be awarded the Diploma.

In case of unsatisfactory completion, the trainee would be given another chance to appear before the examiners (6 months) later.

Exam fees to be paid by candidate as is fixed up