



Discipline Information

The following dates are in (dd/mm/yyyy) format.

Code: RGO5841 - 6 Type: POS
Name: Advanced Topics in Fetal Medicine
Concentration area: Ginecologia e Obstetrícia (17145)

Approval dates:

CCP: 16/09/2020 CPG: 03/11/2020 CoPGr:

Activation date: 03/11/2020 Inactivation date:

Workload:

Total: 60 h Theory: 2 h Practice: 12 h Study: 6 h

Credits: 4 Duration: 3 weeks

82016 - Geraldo Duarte - 03/11/2020 until today
Professors: 567225 - Alessandra Cristina Marcolin - 03/11/2020 until today
6492971 - Marcos Masaru Okido - 21/01/2021 until today

Objectives:

To present to the postgraduate student from different expertise areas the latest knowledge about genetic, biochemical, morphological, and functional alterations of the fetus supporting them for a differentiated management in fetal medicine. This potential improvement of knowledge, combined with technological progress provided by the development of DNA recombination techniques, will offer students a unique opportunity not only to increase their comprehension of the subjects but to support a critical analysis of the daily clinical situations. Definitely they will feel more confident to formulate and propose scientific hypotheses in fetal medicine and perinatology.

Rationale:

Due to the rapid advance of research related to fetal medicine, there is a constant need to reformulate concepts and add new technologies relevant to the subject making it imperative to reevaluate these aspects in depth and permanently. The association of benefits obtained with molecular biology techniques with those provided by ultrasonography enables the construction of suitable diagnostic hypotheses and better quality fetal interventions. This discipline is a unique opportunity for graduate students of our institution which offer them the chance to learn and reflect on fetal diseases and empower them for the critical formulation of new hypotheses and scientific projects in the area.

Content:

Formal classes

1. Congenital infections: pathophysiological mechanisms and diagnostic methods;
2. Critical analysis of sonographic markers of fetal aneuploidies;
3. Critical analysis of 2nd trimester fetal morphological scan;
4. Fetal growth restriction;
5. Maternal alloimmunization: diagnostic and therapeutic aspects.
6. Twin pregnancy.

DISCUSSION OF CLINICAL CASES

Clinical cases of pregnant women with abnormal fetuses will be analyzed by an interactive way within the themes listed below.

1. Serum biochemical and fetal ultrasound markers for the diagnosis of fetal abnormalities
 - Role of 1st trimester scan for early diagnosis of fetal abnormalities;
 - Screening strategies for chromosomal defects and other adverse perinatal outcomes by fetal ultrasound markers:



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nuchal translucency, nasal bone, ductus venosus flow, and valve tricuspid flow;

- Screening strategies for chromosomal defects by serum biochemistry: free β human chorionic gonadotropin, pregnancy-associated plasma protein-A and unconjugated estriol;
- Prenatal detection of fetal aneuploidy from cell-free DNA testing in maternal blood

2. Fetal anemia - from diagnosis to treatment

- Diagnosis of the causes of fetal anemia
- Management of pregnancy at risk of hemolytic disease of the fetus and newborn;
- Treatment of hemolytic disease of the fetus and newborn;
- Follow-up after intrauterine transfusion;
- Prophylaxis of anti-Rh-D alloimmunization.

3. Invasive fetal medicine

- Diagnostic amniocentesis X chorionic villous sampling;
- Critical evaluation of diagnostic cordocentesis;
- Fetal Endoscopic Tracheal Occlusion in congenital diaphragmatic hernia;
- Bladder, ventricular, and pleural shunts;
- Surgical approach of fetal spina bifida.
- Laser photocoagulation of vascular anastomoses in monochorionic twin pregnancy.

4. Twin pregnancy

- Determination of chorionicity;
- Maternal complications of twin pregnancy;
- Complications of monochorionic twin pregnancy: diagnostic and therapeutic aspects;
- Growth discordance in twins;
- Prenatal care based on scientific evidence.

5. Noninvasive fetal medicine

- Cardiotocography for assessment of fetal well-being;
- Role of ultrasound evaluation of fetal well-being;
- Critical evaluation of the Doppler velocimetry of fetal vessels;
- State-of-art in fetal growth restriction

6. Congenital infections

- Maternal and fetal screening;
- Pathophysiological mechanisms of fetal infection;
- Diagnosis of congenital infections;
- Maternal and fetal treatment;
- Maternal, fetal and neonatal prognosis.

Bibliography:

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Type of Assessment:

Frequency greater than 75%; 2. Interest and participation in classes and clinical cases discussion and 3. Presentation of clinical cases.
