General embryology topics (issues):

17.-18.10.23

I. Gametogenesis: meiosis, oogenesis, spermatogenesis
1. meiosis (all stages)
2. birth defects connected to chromosomal abnormalities
3. oogenesis
4. spermatogenesis

II. 1st week: ovulation to implantation
1. two ovarian cycle stages and ovulation (+ hormonal regulation)
2. menstrual cycle of the uterus (4 stages)
3. fertilization (4 stages)
4. claevage of the zygot, blastocyst implantation, trophoblast formation

24.-25.10.23

III. 2nd-3rd week: germ disc; gastrulation; embryonic period
1. epiblast and hypoblast formation and differentiation during 2nd and 3rd week
2. gastrulation
3. derivatives of three germ layers during embryonic period
4. external appearance during the second month

IV. Fetal period – monthly changes; delivery time
1. monthly changes of fetal period
2. time of birth
2. parturition
4. prenatal diagnosis

7.-08.11.23

V. Fetal membranes and placenta
1. early changes of the trophoblast
2. structure and function of the placenta – fetal and maternal part
3. circulation of the placenta
4. amnion and umbilical cord

VI. Molecular basis of development
1. regulation of genes expression
2. induction and organ formation
3. cell signaling
4. key signaling pathways for development

4.-15.11.23

VII. Principles of teratology and birth defects caused by genetic factors
1. types of abnormalities
2. varying risk of birth defects during embryonic and fetal period
3. defects caused by genetic factors
4. principles of teratology

VIII. Human birth defects caused by environmental factors (chemical, physical and biological)
1. infectious agents
2. radiation, hormones
3. drugs and chemical agents
4. maternal diseases and male-mediated teratogenesis