

Pregnancy

1. Terms

1. pregnancy: fertilization to birth
2. conceptus: "that which is conceived"
3. gestation: menses to birth
4. preembryo: fertilization to 2 weeks
5. embryo: 3 - 8 weeks
6. fetal: 9 weeks- birth
7. extrauterine fetus: birth-1 year
8. figure

2. From Egg to Embryo

1. fertilization
 1. oocyte is viable 12 - 24 h post ovulation
 2. sperm viable for up to 5 days
 3. fertilization occurs 1/3 down the Fallopian tube
2. sperm transport & capacitation
 1. distance
 2. mucus, acid, contractions
 3. capacitation
 1. hydrolytic enzyme easily released
 2. not desirable until near egg
 4. acrosomal reaction
 1. enzymes released to breach corona radiata & zona pellucida
 2. later sperm have higher probability of fertilization
 5. blocks to polyspermy
 1. fast block (electrical; Ca^{++} release)
 2. slow block cortical reaction
 6. figure
 7. completion of meiosis II & fertilization
 1. egg completes meiosis in response to Ca^{++} signal
 2. ovum & sperm become pronuclei
 3. fuse into zygote
3. preembryonic development
 1. cleavage
 2. blastocyst
 3. implantation: begins 6 days after ovulation
 1. blastocyst secretes: digestive enzymes
 2. growth factors
 3. acute inflammatory response by endometrium (!)
 4. proliferation
 5. syncytiotrophoblast
 6. invasion
 7. complete by 14th day after ovulation
 8. figures
 4. maintenance of pregnancy by trophoblast secreting **hCG** (Human Chorionic Gonadotropin)
 1. hCG detected by pregnancy tests
 2. hCG keeps corpus luteum producing progesterone & estrogen
 5. placentation
4. embryonic development
 1. embryonic membranes
 1. amnion
 1. filled with fluid
 2. buoys embryo
 2. yolk sac
 1. nutrition in many animals
 2. mammals: gut, earliest blood cells, & gonads
 3. allantois
 1. waste disposal in many animals
 2. mammals: umbilical cord
 4. figure
 5. embryonic development
 6. teratogens
 1. alcohol & Fetal Alcohol Syndrome
 2. nicotine
 3. drugs
 1. pharmaceutical
 2. "other"

3. Effects of Pregnancy

1. physical
 1. Chadwick's sign
 2. breast swelling
 3. uterine enlargement
 4. relaxin
 5. weight gain
2. metabolic
 1. placental growth
 2. gestational diabetes
 3. hyperthyroid
3. physiological
 1. morning sickness
 2. constipation
 3. more urine
 4. difficulty breathing
 5. increased blood volume

4. Birth

1. dilation
2. expulsion
3. placental stage
4. figures