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MATRIC NUMBER: 18/MHS01/115

DEPARTMENT: MEDICINE AND SURGERY

COURSE TITLE: GENERAL EMBRYOLOGY

ASSIGNMENT

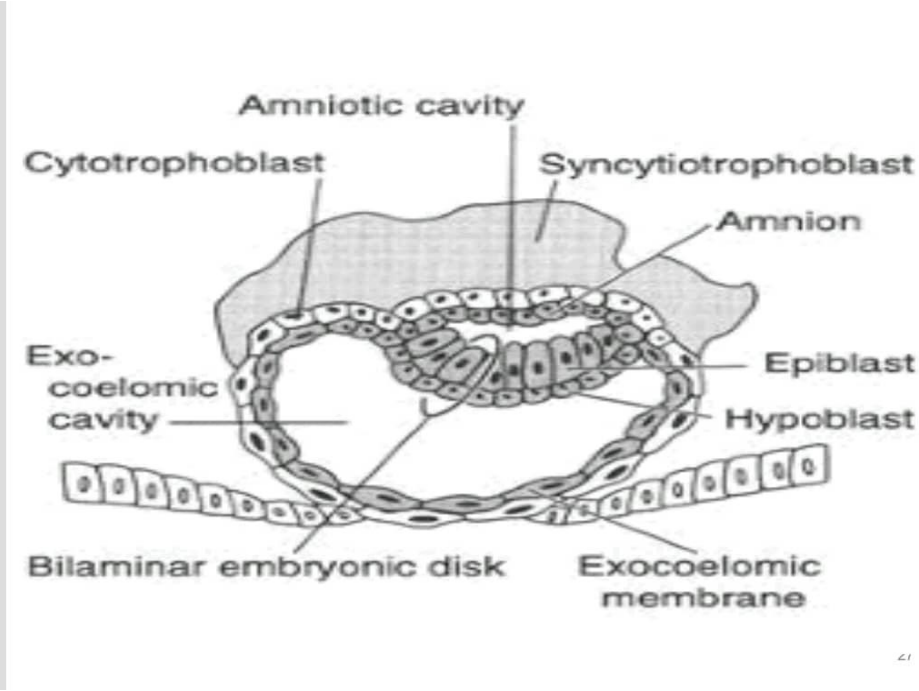
SECOND WEEK OF EMBRYONIC DEVELOPMENT

During the second week of embryonic development, the embryo is implanted in the in the uterus and blastocyst cells organize into layers. At the second week of embryonic development, there will be:

- Complete implantation
- Formation of bi-laminar germ discs
- Formation of extra embryonic structures

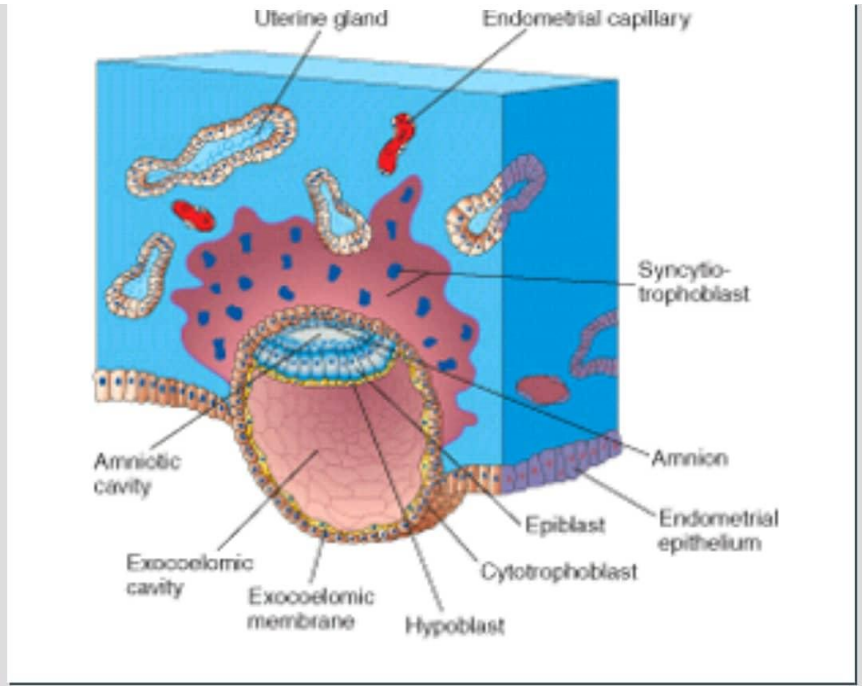
DAY 8

- ❖ The blastocyst is partially embedded in the endometrium
- ❖ The cytotrophoblast divides and migrates into the region of the syncytiotrophoblast where they fuse and continues to erode it.
- ❖ Syncytiotrophoblast will erode the endometrium
- ❖ The embryoblast will develop into columnar-shaped epiblast and cuboidal-shaped hypoblast.
- ❖ Formation of bi-laminar germ disc between the region of the epiblast and hypoblast
- ❖ Amniotic cavity: within the amnion and the epiblast cells
- ❖ Amnioblast or Amnion: epiblast cells that are located closest to the cytotrophoblast.



DAY 9

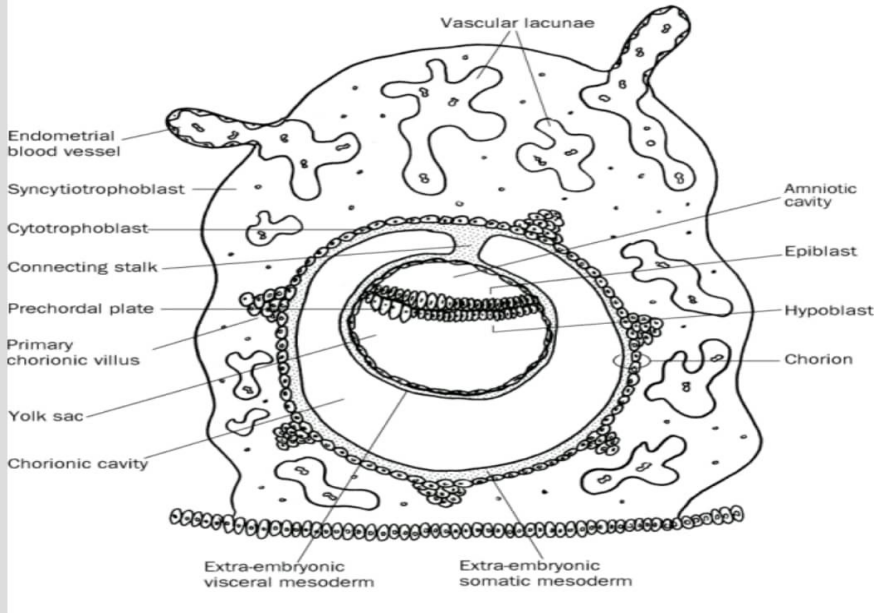
- Blastocyst is deeply embedded in the endometrium
- Formation of Trophoblastic lacunae between the region of the cytotrophoblast and syncytiotrophoblast
- Formation of Heuser's membrane or Exocoelomic membrane
- Formation of Exocoelomic cavity or Primary yolk sac or Primary umbilical vesicle
- Formation of fibrin coagulum.



DAY 11 – 12

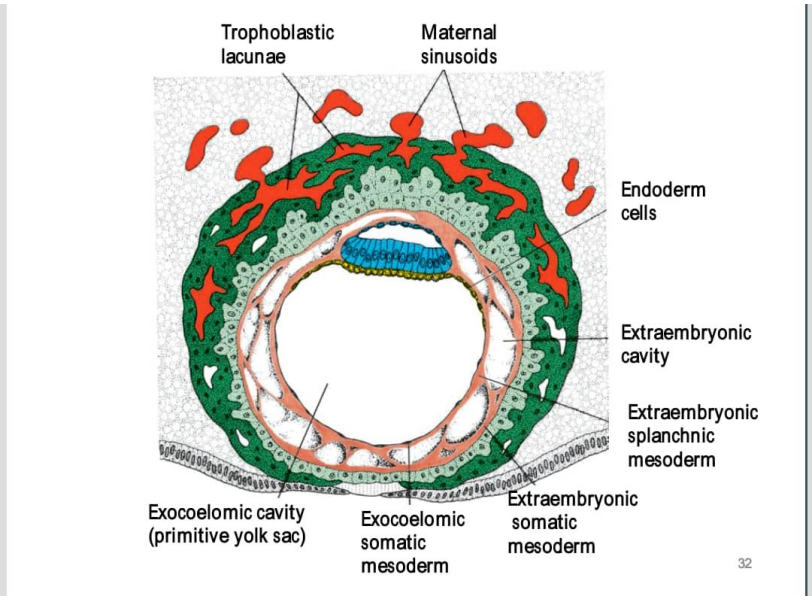
- Blastocyst is completely embedded in the endometrium
- Spillage of blood due to ruptured capillaries lead to the Formation of Sinusoid, which communicate with the trophoblastic lacunae. This aids communication between the maternal blood and the developing blastocyst. Food, nutrients, oxygen and the likes are carried to the embryoblast from the maternal blood. Wastes and excretory products are carried to the maternal blood from the embryoblast.

  The communication of the eroded endometrial capillaries with the lacunae establishes the primordial utero placental circulation.



DAY 13

- Formation of the extra embryonic mesoderm and coelom
- Formation of Sphlachnic and somatic mesoderm separated by extra embryonic coelom
- Formation of secondary yolk sac or secondary umbilical vessicle



DAY 14

- Formation of chorionic cavity
- Formation of syncytium
- Formation of exocoelomic cyst
- Formation of connecting stalk.