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DISCUSS THE SECOND WEEK OF DEVELOPMENT

During the second week of development three main events take place and they include

- Completion of implantation
- Formation of bilaminar germ disc
- Development of extra embryonic structures

DAY 8

The blastocyst is partially embedded in the endometrium. The syncytiotrophoblast will continue to erode round the endometrium. The cells of the cytotrophoblast continues to divide and

migrate into the regions of the syncytiotrophoblast.

The embryoblast differentiates into two types of cell and they include

- cuboidal cell(hypoblast)
- columnar cell(epiblast)

The cells of the epiblast adjacent to the cytotrophoblast is called AMNIOBLAST or AMNION. The epiblast surrounds the amniotic cavity. The epiblast and hypoblast give rise to the bilaminar germ disc.

DAY 9

Blastocyst is deeply embedded in the endometrium. The surface of the epithelium is covered with fibrin Coagulum. A membrane lie adjacent to the cytotrophoblast and it is called EXO-COELOMIC MEMBRANE or HEUSER'S MEMBRANE. The cavity in between the exo-coelomic membrane and the hypoblast is called exo-coelomic cavity or

primary yolk sac, primary umbilical vesicle. Vacuums develop in the region of syncytiotrophoblast and are called LACUNAE. At this stage we have triphoblastic lacunae.

DAY 11-12

Blastocyst is completely embedded in the endometrium. Ruptured capillaries are called SINUSOID and this causes spillage of blood. The sinusoid communicates blood to the trophoblastic lacunae. At this stage a primordial utero placental circulation is established. A space of mesoderm develops within the region of cytotrophoblast and exocoelomic membrane and cytotrophoblast and amnioblast except at a point where we have the connecting stalk.

The space of mesoderm is called extra embryonic mesoderm. Inside the extra embryonic mesoderm there is the development of some cavities called extra

embryonic cavity or extra embryonic coelum . It divides the mesoderm into two parts

- Extra embryonic somatic mesoderm
- Extra embryonic splanchnic mesoderm

As the conceptus implants , the endometrial connective tissue cells undergo a transformation called DECIDUAL REACTION. During this reaction, cells of the endometrium swells because of the accumulation of glycogen and lipid in their cytoplasm and they are known as DECIDUAL CELLS. The primary function of the decidual reaction is to provide nutrition for the early embryo and an immunologically privileged site for the conceptus.

DAY 13

- The surface defect in the endometrium has been completely covered by the surface epithelium

- Occasionally, bleeding occurs at the implantation site as a result of increased blood flow of lacunae spaces.
- Cells of the cytotrophoblast acquire syncytium and having a villi shape. When they have a syncytium they are called primary villi.
- The connecting stalk give rise to the future umbilical stalk.
- The extra embryonic cavity enlarged and forms chronic cavity.
- Exo-coelomic cavity becomes smaller and forms secondary yolk sac or secondary umbilical vesicle.
- The exo-coelomic cyst is formed.