OKEKE CHINENYE BLOSSOM

18/mhs01/264

EMBRYOLOGY ASSIGNMENT

200lvl MEDICINE AND SURGERY

**SECOND WEEK OF EMBRYONIC DEVELOPMENT**

Three thing occur

-The completion of implantation Of blastocysts

-Formation of Bilaminar Embryonic Disc

-Formation of Extraembryonic structure

DAY8

* Blastocyst is partially embedded in the endometrium
* Syncytiotrophoblast continue to invade the endometrium and continue to erode the blood vessels and glands
* More cells in the cytotrophoblast divide and migrate to the syncytiotrophoblast where they fuse and loose their individual membrane.
* Cells of embryo last divide into 2 which are

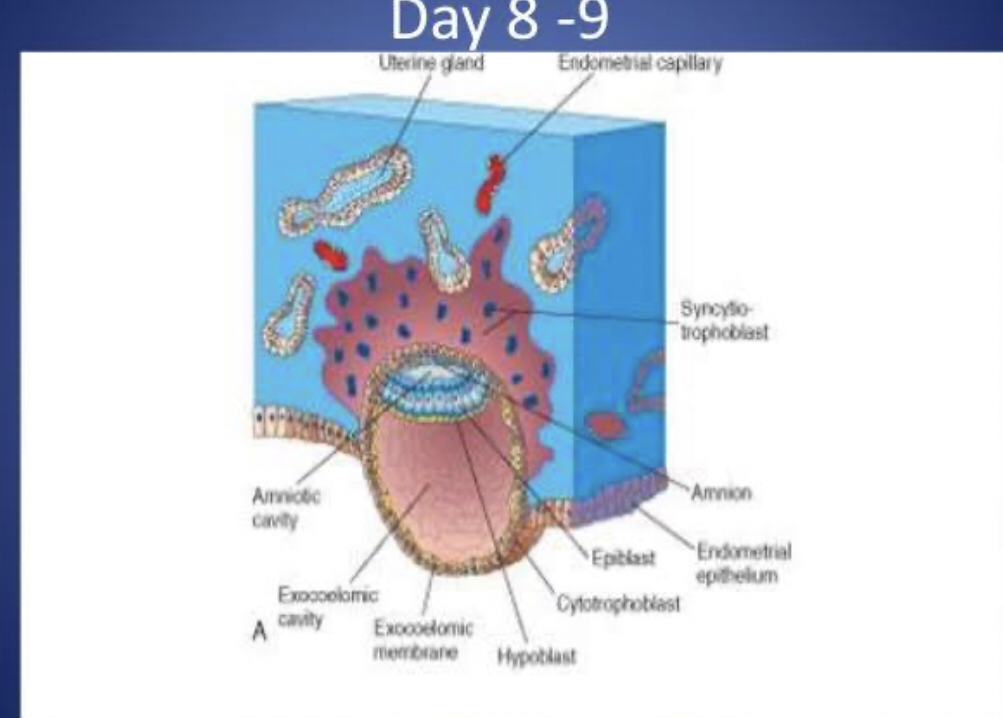
Hypoblast: small cuboidal cells adjacent to the blastocyst cavity

Epiblast: high columnar cells adjacent to the amniotic cavity

* Epiblast and hypoblast together form a flat ovoid disc called Bilaminar Embryonic disc
* Small cavities form appears in the epiblast and enlarge to become the amniotic cavity
* Amnioblast(epiblast adjacent to cytotrophoblast) together with the remaining epiblast line the amniotic cavity

DAY 9

* Blastocyst is more deeply embedded in the endometrium and the penetration defect in the surface epithelium is covered by a coagulant called Fibrin
* Vacuoles form around the Trophoblast and become larger to form the Lacunae
* The cells of the hypoblast adjacent to the cytotrophoblast forma thin layer of membrane called exocoelomic/ Heuser’s membrane
* The Heuser’s membrane lines the inner surface of cytotrophoblast
* The exocolomic membrane together with the hypoblast line the Exocolemic cavity or Primitive Yolk sac



DAY 11-12

* Blastocyst is completely embedded in the endometrium
* Surface epithelium entirely covers the original defects in uterine wall
* Blastocyst slightly protrudes into the linen of the uterus
* Cells of the syncytiotrophoblast penetrates the storms and erode the endothelial lining in the endometrial capillaries
* Ruptured endothelial capillaries are called sinusoids
* Lacunae communicated with the sinusoids and the maternal blood enters the Lacunar system
* When the maternal blood flows in it provides nutrition and oxygen for the embryo
* Communication of the ruptured endometrial capillaries and lacuna form the primordial uteroplacental Circulation
* A new population of cels form between the inner surface of cytotrophoblast and the outer surface of the exocolomic cavity
* These cells are derived from yolk sac and form a fine loose connective tissue called Extra-embryonic Mesoderm
* Large cavities form between the Extra-embryonic mesodermal don’t form a new space called Extra-embryonic cavity or Extra-embryonic Coelom
* The space sleeping the primitive yolk sac and the amniotic cavity
* The Extra-embryonic mesoderm lining the cytotrophoblat and amnion is known as Extra-embryonic Somatic Mesoderm
* Lining the yolk sac is called Extraembryonic Splanchnic Mesoderm
* The endometrial connective tissue undergo DECIDUAL reaction
* This involved the swelling of the endometrium due to the accumulation of glycogen and lipids in the cytoplasm known as Decidual cells
* The primary function is to provide nutrition to the embryo.

DAY13

* Surface defect in the endometrium has been completely covered by the surface epithelium
* Bleeding occurs occasionally in the implantation site due to the increased blood flow in the lacunae spaces
* Cells of cytotrophoblast proliferate and penetrate to the syncytiotrophoblast forming cellular columns sleepiness by syncytium
* Cellular Column surrounded by syncytium is known as primary villi
* Primary yolk save reduces to become secondary yolk sac
* In humans the Yolk sac has no yolk but is useful in the transportation of nutrients to the embryo
* During formation, large portions of the exocoelomic cavity are picked off which forms exocoelomic cysts
* These are found in the Extra-embryonic cavity
* Meanwhile the Extra-embryonic coelom expands to form the chorionic cavity
* The Extra-embryonic Mesoderm lining cytotrophoblat is known as chorionic plate
* The only place where Extra-embryonic Mesoderm a transverse the chorionic cavity is in the connecting stalk
* With development of blood vessel, the connecting stalk becomes umbilical cord

