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Embroyology

Second week of human development

During the second week of human development ( day 7-14) three major development occurs which includes

1. Complete implantation of blastocyst
2. Formation of two cell layers and the bilaminar disc
3. Formation of extraembryonic structures

The extraembryonic structures includes the amnion cells , aminotic cavity, exocolemic cavity, primary yolk sac, connecting stalk, extraexocoelemic cavity

The important days of this week includes the Day 8, Day 9 and Day 10-12

At Day 8

The syncytiotrophoblast continues to enrode the region of endometrium

The cytrophoblast continues to migrate towards the region of syncytiotrophoblast therefore the blastocyst is partially embedded in the endometrium

The inner mass cells called the embryoblast differentiates into a cuboidal cell called the hypoblast and a columnar cell called the epiblast.

Thr epiblast cells close to the trophoblast region is called the amnion cells.when the amnion cells are found a cavity called the amniontic cavity is equally formed seperating the amnion from the bilaminar disc ( which is formed by the combination of the epiblast and hypoblast )

At day 9

The syncytiotrophoblast continues to enrode the region of endometrium

The cytrophoblast continually migrate towards the region of the syncytiotrophoblast resulting into a deep implantation of the blastocyst as a result of this, small vacoules begin to form in the region of the. Syncytiotrophoblast known as the lacunae

The outer layer of the hypoblast and the inner layer of the cytrophoblast forms a cavity known as the exocolemic cavity or the primary yolk sac or primary umblical Vessicle.

At the connective tissue layer of the blastocyst a fibrin coagulum is formed to avoid penetration and loss of blood

A communication is established between the embryo and the mother via the uteroplacenta communication for the exchange of blood and nutrients

The connecting stalk is equally formed which connects the bilaminar disc layer to the trophoblast which later becomes the umblical cord at the 4th week

At day 10-12

The syncytiotrophoblast continues to enrode the region of endometrium and the cytrophoblast continually migrated towards the region of endometrium causing the rupturing of the capillaries .the ruptured capillaries are referred to as sinuosoid

At this stage the blastocyst is completely implanted to the endometrium ( inner wall of the uterus )

A space is formed between the inner layer of the cytrophoblast and outer layer of exocolemic cavity this pace is known as the extra embryonic cavity, this space is formed totally round except from the region of the connecting stalk

