

NAME: OZIGBO OSAGIODAGBON
IKPONMWOSA

MATRIC NUMBER: 18/MHS01/326

DEPARTMENT: MBBS.

ASSIGNMENT

The following events take place during the 2nd week of development

1. Completion of implantation of the blastocyst
2. Formation of bilaminar embryonic disc
3. Formation of extraembryonic disc(amniotic cavity, amnion, umbilical vesicle,connecting stalk, and chorionic sac.)

At the eight day of development the blastocyst is partially embedded in the endometrium. The cells of the inner cell mass or embryoblast differentiate into 2 layers: the hypoblast layer and the epiblast layer. The hypoblast and epiblast layers together form a disc called the bilaminar embryonic disc. At the same time a small cavity appears within the epiblast which enlarges to form the amniotic cavity. Epiblast cells adjacent to the the cytotrophoblast are called amnioblast. Amnioblast help to line the amniotic cavity. The cells of the hypoblst adjacent to the cytotrophoblast form a thin membrane called the exocoelomic membrane. This membrane lines the inner surface

of the cytotrophoblast. It together with the hypoblast forms the lining of the exocoelomic cavity.

11th – 12th day of development

The blastocyst is completely embedded in the endometrium. Ruptured endometrial capillaries are known as sinusoids. The lacunae communicate with the sinusoids and maternal blood enters the lacunar system. When maternal blood flows into the lacunae, oxygen and nutritive substances are available to the embryo. A new population of cells appears between the inner surface of the cytotrophoblast and the outer surface of the exocoelomic cavity. These cells are called the extraembryonic mesoderm. The extraembryonic mesoderm lining the cytotrophoblast and amnion is called the extraembryonic somatic mesoderm which also forms the connecting stalk.

13th day of development

The surface defect in the endometrium has been completely covered by the surface epithelium. Cells of the cytotrophoblast proliferate locally and penetrate into the syncytiotrophoblast forming cellular columns surrounded by syncytium. Cellular columns with the syncytial covering are known as primary villi. The primary yolk sac becomes reduced in size and is known as secondary yolk sac. The extraembryonic coelom expands and forms a large cavity called the chorionic cavity. With development of blood vessels the connecting stalk becomes the umbilical cord.