DAVIES KOSISONNA JEFFERY

18/MHS/123

DISCUSS THE SECOND WEEK OF EMBRYONIC DEVELOPMENT

In the second week the following takes place

1. Completion of implantation of the blastocyst.
2. Formation of bilaminar embryonic disc (epiblast and hypoblast).
3. Formation of extraembryonic structures.

Trophoblast is differentiated into two layers; the cytotrophoblast (inner layer) and the syncytotrophoblast (outer) which produces human chorionic gonadotrophin (hCG). The syncytotrophoblast invades the endometrium thereby. The inner cell mass differentiates into hypoblast and epiblast (bilaminar embryonic disc), then a small cavity appears in within the epiblast and forms the amniotic cavity.

The blastocyst goes more deeply into the endometrium and vacuoles appear at the region of the trophoblast and they fuse to form a thin membrane called the exocoelomic membrane which lines the inner surface of the cytotrophoblast and it forms the primary yolk sac or primary umbilical vesicle.

cells of the syncytiotrophoblast penetrate deeper into the stroma(tissue) and erode the endothelial lining of the endometrial capillaries, These ruptured endometrial capillaries are called sinusoids The lacunae then begin to communicate with the sinusoids, and maternal blood enters the lacunar system The communication of the eroded endometrial capillaries with the lacunae establishes the primordial uteroplacental circulation. 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 which are derived from yolk sac cells form a fine, loose connective tissue called the extraembryonic mesoderm. Soon, large cavities develop in the extraembryonic mesoderm, and when these become confluent, they form a new space known as the extraembryonic cavity**,** orchorionic cavityor extraembryonic coelom. This space surrounds the primitive yolk sac and amniotic cavity, except where the germ disc is connected to the trophoblast by the connecting stalk (which develops into the umbilical cord). The extraembryonic mesoderm lining the cytotrophoblast and amnion is called the extraembryonic somatic mesoderm. Extraembryonic somatic mesoderm also forms the connectingstalk. The lining covering the yolk sac is known as the extraembryonic splanchnic mesoderm.