

NAME; YUSUF JEMIMAH SULE

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DEPARTMENT; NURSING

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ASSIGNMENT

1. Write short note on implantation.

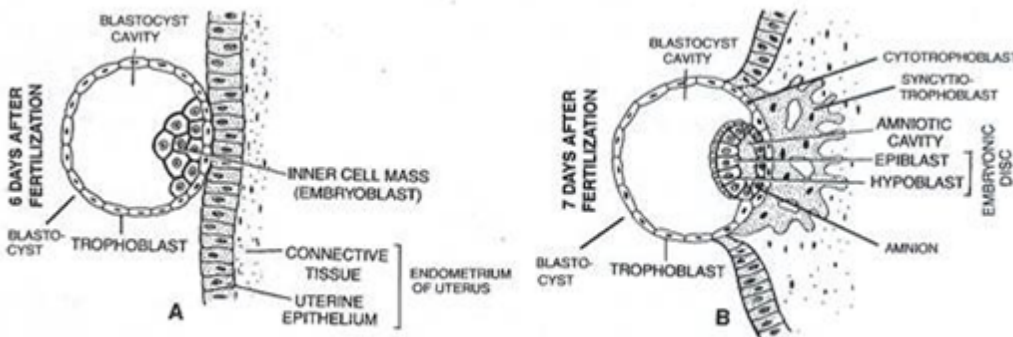
The term "implantation" is used to describe process of attachment and invasion of the uterus endometrium by the blastocyst (conceptus) in placental animals. In humans, this process begins at the end of week 1, with most successful human pregnancies the conceptus implants 8 to 10 days after ovulation, and early pregnancy loss increases with later implantation. The implantation process continues through the second week of development. An implantation of the blastocyst outside this zone means an extra-uterine pregnancy with serious consequences for the person's health.

The implantation stages of the blastocyst in the uterine endometrium can be seen as taking place in three phases: apposition, adhesion and the embedding in the endometrium. In humans, implantation is the stage of pregnancy at which the already fertilized egg adheres to the wall of the uterus. At this stage of prenatal development, the conceptus is called a blastocyst. It is by this adhesion that the fetus receives oxygen and nutrients from the mother to be able to grow.

Implantation is the attachment of the blastocyst to the uterine wall. It occurs after 7 days of fertilization. About 8 days after fertilization, the trophoblast develops into two layers in the region of contact between the blastocyst and endometrium. These layers are

- (a) syncytiotrophoblast that contains non-distinct cell boundaries and
- (b) cytotrophoblast between the inner cell mass and syncytiotrophoblast that is composed of distinct cells.

The portion of the blastocyst where the inner cell mass is located lies against the endometrium of the uterus. The blastocyst sinks into a pit formed in the endometrium and gets completely buried in the endometrium. The embedded blastocyst forms villi to get nourishment. The cells of the inner cell mass differentiate into two layers, (a) a layer of small, cuboidal cells known as the hypoblast layer; and (b) a layer of high columnar cells, the epiblast layer. Both the hypoblast and epiblast form a flat disc called the embryonic disc.



Implantation of blastocyst.