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1. Write a short note implantation

During fertilization, the sperm and egg unite in one of the fallopian tubes to form a zygote. Then the zygote travels down the fallopian tube, where it becomes a morula. Once it reaches the uterus, the morula becomes a blastocyst. The blastocyst then burrows into the uterine wall — a process called implantation.

In humans, implantation is the stage of pregnancy at which the embryo 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 embryo receives oxygen and nutrients from the mother to be able to grow.

In humans, implantation of a fertilized ovum is most likely to occur around nine days after ovulation; however, this can be between 6 and 12 days. The reception-ready phase of the endometrium of the uterus is usually termed the "implantation window" and lasts about 4 days. The implantation window occurs around 6 days after the peak in luteinizing hormone levels. With some disparity between sources, it has been stated to occur from 7 days after ovulation until 9 days after ovulation, or days 6-10 postovulation.On average, it occurs during the 20th to the 23rd day after the last menstrual period. The implantation window is characterized by changes to the endometrium cells, which aid in the absorption of the uterine fluid. These changes are collectively known as the plasma membrane transformation and bring the blastocyst nearer to the endometrium and immobilize it. During this stage the blastocyst can still be eliminated by being flushed out of the uterus. Scientists have hypothesized that the hormones cause a swelling that fills the flattened out uterine cavity just prior to this stage, which may also help press the blastocyst against the endometrium. The implantation window may also be initiated by other preparations in the endometrium of the uterus, both structurally and in the composition of its secretions.

To enable implantation, the uterus goes through changes in order to be able to receive the conceptus. 1)Predecidualization:

The endometrium increases thickness, becomes vascularized and its glands grow to be tortuous and boosted in their secretions. These changes reach their maximum about 7 days after ovulation.Furthermore, the surface of the endometrium produces a kind of rounded cells, which cover the whole area toward the uterine cavity. This happens about 9 to 10 days after ovulation.[6] These cells are called decidual cells, which emphasises that the whole layer of them is shed off in every menstruation if no pregnancy occurs, just as leaves of deciduous trees. The uterine glands, on the other hand, decrease in activity and degenerate around 8 to 9 days[6] after ovulation in absence of pregnancy.

2) Decidualization:

Decidualization succeeds predecidualization if pregnancy occurs. This is an expansion of it, further developing the uterine glands, the zona compacta and the epithelium of decidual cells lining it. The decidual cells become filled with lipids and glycogen and take the polyhedral shape characteristic for decidual cells.

Implantation is initiated when the blastocyst comes into contact with the uterine wall. To be able to perform implantation, the blastocyst first needs to get rid of its zona pellucida. This process can be called "hatching".