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**MATRIC NO: 18/MHS07/003**

**Assignment Title: fertilization**

**Course Title: Renal Physiology, Body fluid & Temperature Regulation and Autonomic Nervous System**

**Course Code: PHS 212**

**Question**

Write a **short** note on IMPLANTATION.

**Answer**

**Definition**

Implantation is the stage of pregnancy at which the embryo adheres to the wall of the uterus.

In other words, implantation is the time when the fertilized egg successfully attaches and implants into the lining of the uterine wall.

**Implantation Process**

Implantation is a process in which a developing embryo, moving as a blastocyst through a uterus, makes contact with the uterine wall and remains attached to it until birth. The lining of the uterus (endometrium) prepares for the developing blastocyst to attach to it via many internal changes. Without these changes implantation will not occur, and the embryo sloughs off during menstruation.

Before embryogenesis begins, the ovary releases an unfertilized egg cell, which then travels down the fallopian tube. The egg is enveloped in the zona pellucida (ZP).

As the zygote moves through the fallopian tube it undergoes several rounds of cell division. These cell divisions produce the inner cell mass (ICM), which will become the embryo, and the trophoblast, which surrounds the ICM and interacts with maternal tissues. Together, the ICM and the trophoblast are called the blastocyst. A blastocyst successfully implants in the uterus when, as the ZP exits the fallopian tube, the blastocyst leaves the ZP and binds to the endometrium. The endometrium is one of the few uterine surfaces to which a blastocyst cannot always implant. The properties of the endometrium change, and only in a brief window can the blastocyst implant on the tissue.

**Successful implantation depends on the blastocyst binding to the endometrium** and if implantation does not occur, the endometrium breaks down and sheds, along with the blastocyst, as part of the menstrual cycle.

**When Implantation occurs**

On average, implantation occurs about 8-10 days after ovulation, but it can happen as early as six and as late as 12. This means that for some women, implantation can occur around cycle day 20, while for others, it can be as late as day 26.

**How long it lasts**

Implantation typically lasts only a few days. Once it’s complete and the fertilized egg—now called an embryo—is burrowed snugly inside the uterine wall, it will begin to produce hCG also know as human chorionic gonadotropin.

**Implantation symptoms**

The most common implantation symptoms of early pregnancy include:

* Implantation cramps
* Implantation bleeding
* Discharge
* Nausea
* Tender breasts
* Constipation and bloating
* Fatigue
* Headaches
* Mood swings