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

**Assignment Title: fertilization**

**Course Code: PHS 212**

**Question**

Discuss the factors facilitating the movement of sperm in the female reproductive tract

**Answer**

Sperm transport within the female reproductive tract is a cooperative effort between the functional properties of the sperm and seminal fluid on the one hand and cyclic adaptations of the female reproductive tract that facilitate the transport of sperm towards the ovulated egg. Much of the story of sperm transport in the female reproductive system involves the penetration by the sperm of various barriers along their way toward the egg.

**Summary**

At coitus (sexual intercourse)**,** human sperm are deposited into the anterior vagina, where, to avoid vaginal acid and immune responses, they quickly contact cervical mucus and enter the cervix.

**Cervical mucus** filters out sperm with poor morphology and motility and as such only a minority of ejaculated sperm actually enter the cervix.

**In the uterus,** muscular contractions may enhance passage of sperm through the uterine cavity. A few thousand sperm swim through the **uterotubal junctions** to reach the Fallopian tubes (uterine tubes, oviducts) where sperm are stored in a reservoir, or at least maintained in a fertile state, by interacting with **endosalpingeal (oviductal) epithelium.** As the time of ovulation approaches, sperm become capacitated and hyperactivated, which enables them to proceed towards the **tubal ampulla.** Sperm may be guided to the oocyte by a combination of **thermotaxis and chemotaxis**.

**Motility hyperactivation** assists sperm in penetrating mucus in the tubes and the cumulus oophorus and zona pellucida of the oocyte, so that they may finally fuse with the oocyte plasma membrane.

**Factors**

The summary of everything that was mentioned, the factors that facilitate the movement of sperm in the female reproductive tract include the following;

* The deposition of semen in the upper vagina close to the cervix in order to ensure the survival of sperm. This is because the normal environment of the vagina is inhospitable due to its low pH.
* Another factor is the raised pH of the upper vagina from 4.3 to 7.2, which creates an environment favorable for sperm motility.
* The coagulation of human semen through the actions of semogelin by a minute after coitus.
* A critical element in sperm motility is the availability of fructose, a nutrient provided by the seminal vesicles, within the semen. Because of their paucity of cytoplasm, spermatozoa require an external energy source.
* Filtration of sperm by the Cervical mucus.
* Sperm transport into and through the uterus is assisted by contractions of its thick smooth muscle walls.
* Another factor is the occurrence of capacitation which is a reaction necessary for a spermatozoon to be able to fertilize an egg.
* And lastly, the hyperactivation of the sperm which allows the sperm to break free from their binding with the tubal epithelial cells.
* Note: It is important for spermatozoa to pass to the upper uterine tube, where they can meet the ovulated egg.