Hormonal controls and the functioning of the female reproductive system

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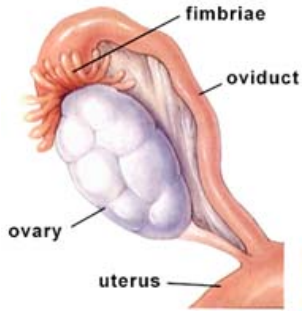
Hormones of Ovary

Ovarian Cycles

The ovary cycles between a follicular and aluteal phase after maturity. These cyclic phases are known as menstrual cycle and it is a continuous periodical process till the age of 55 approximately in Human females.

Only pregnancy can interrupt this menstrual cycle. The end of the cylcle is known as menopause. In this phase overall reproductive capability of a human female ends. Normally the ovarian cycle lasts 28 days. But it can vary for individuals between 24-35 days it may happen.



At the start of the cycle, first the oocyte matures within a follicle. Ovulation is a process of releasing the oocyte from the ovary.

After this, the follicle forms a corpus luteum. This corpus luteum synthesizes hormones and these hormones make the uterus ready for pregnancy.

The secondary oocyte passes into theoviduct. The oviduct is connected to the uterus.

The oviduct is also known as fallopian tube or uterine tube. From the fallopian tube the fertilized egg reaches the uterus and it is implanted in the uterus wall.

Layers of Uterus

Endometrium is the inner layer of the uterus. Here only the fertilized egg implants. At the lower end of the uterus the cervix connects the uterus to the vagina. The vagina receives the penis during intercourse and serves as the birth canal.

Hormones and Female Cycles

Menstrual Cycle

Two phases regulate the menstrual cycle.

1. The follicle secretes estrogen before ovulation;
2. The corpus luteum secretes both estrogen andprogesterone after ovulation.

Menstrual cycle is controlled by the hormones from the hypothalamus and anterior pituitary control. The ovarian cycle covers all the ovary events and it occurs in the uterus.

- Menstrual cycles are different for every individual and it may vary from between 15 and 31 days.
- Menstruation is the first day of blood flow. It is noted as day 0.
- During menstruation first the uterine lining is broken down and shed as menstrual flow.
- FSH and LH are secreted on day 0, beginning both the menstrual cycle and the ovarian cycle.
- Both FSH and LH stimulate the maturation of a single follicle in one of the ovaries and the secretion of estrogen.
- Rising levels of estrogen in the blood trigger secretion of LH, which stimulates follicle maturation and ovulation (day 14, or midcycle).
- LH stimulates the remaining follicle cells to form the corpus luteum, which produces both estrogen and progesterone.
- Development of the endometrium is stimulated by Estrogen and progesterone They also help in the preparation of the uterine inner lining for implantation of a zygote

- Hormonal deficiency causes the sloughing off of the inner lining of the uterus by a series of muscle contractions of the uterus.

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