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NURSING DEPARTMENT

PHS212

FEMALE REPRODUCTIVE SYSTEM

CHANGES IN CERVIX DURING MENSTRUAL CYCLE

Mucus membrane of the cervix also shows cyclic changes during different phases of menstrual cycle.

1. Proliferative Phase: During proliferative phase, the mucus membrane of cervix becomes thinner and more alkaline due to the influence of estrogen. It helps in the survival and motility of spermatozoa.
2. Secretory Phase: During secretory phase, the mucus membrane of cervix becomes more thick and adhesive because of actions of progesterone.

VAGINAL CHANGES DURING MENSTRUAL CYCLE

1. Proliferative Phase: Epithelial cells of vagina are cornified. Estrogen is responsible for this.
2. Secretory Phase: Vaginal epithelium proliferates due to the actions of progesterone. It is also infiltrated with leukocytes. These two changes increase the resistance of vagina for infection.

HORMONAL REGULATION OF MENSTRUAL CYCLE

The regulatory system functions through the hormones of hypothalamo-pituitary-ovarian axis.

Hormones involved in the regulation of menstrual cycle are: Hypothalamic hormone (GnRH), Anterior pituitary hormones (FSH and LH) and Ovarian hormones (Estrogen and progesterone).

- I. Hypothalamic Hormone – GnRH GnRH triggers the cyclic changes during menstrual cycle by stimulating secretion of FSH and LH from anterior pituitary. GnRH secretion depends upon two factors: i. External factors like psychosocial events, which act on hypothalamus via cortex and many other brain centers ii. Feedback effects of ovarian changes via ovarian hormones.
- II. Anterior Pituitary Hormones – FSH and LH FSH and LH modulate the ovarian and uterine changes by acting directly and/or indirectly via ovarian hormones. FSH stimulates the recruitment and growth of immature ovarian follicles. LH triggers ovulation and sustains corpus luteum. Secretion of FSH and LH is under the influence of GnRH.
- III. Ovarian Hormones – Estrogen and progesterone which are secreted by follicle and corpus luteum, show many activities during menstrual cycle. Ovarian follicle secretes large quantity of estrogen and corpus luteum secretes large quantity of progesterone. Estrogen secretion reaches the peak twice in each cycle; once during follicular phase just before ovulation and another one during luteal phase. On the other hand, progesterone is virtually absent during follicular phase till prior to ovulation. But it plays a critical role during luteal phase. Estrogen is responsible for the growth of follicles.