

**NAME: JEREMIAH JUDITH.C.**

**MATRIC NO: 18/MHS02/098**

### **Cyclic changes in uterine cervix:**

- Mucosa of uterine cervix does not undergo cyclic desquamation as the body of uterus .
- Regular changes in cervical mucus under influence: 1. estrogens (ovulation) mucus thinner and more alkaline - promotion of survival and transport of sperm, spinnbarkeit at ovulation 2. progesterone (after ovulation, during pregnancy) mucus thick, tenacious, cellular.

### **Cyclic changes in the breasts during menstrual cycle:**

- under the influence of estrogens -proliferation of mammary ducts
- under the influence of progesterone -growth of lobules and alveoli -breast swelling, tenderness and pain 10 days preceding menstruation caused by hyperemia and edema of interstitial tissue of the breast. -changes and symptoms disappear during Menstruation.

## **MENSTRUAL CYCLE**

The menstrual cycle begins with the maturation of oocytes through the process of oogenesis, as well as concurrent follicle development that stimulates ovulation. Oogenesis starts with the process of developing oogonia via the transformation of primordial follicles into primary oocytes, a process called oocytogenesis. Oocytogenesis is complete either before or shortly after birth in humans. During the menstrual cycle primary oocytes complete maturation through further meiotic divisions.

Follicle development signals the beginning of the menstrual cycle. At the start of the menstrual cycle, some 12-20 primary follicles begin to develop under the influence of elevated levels of follicle-stimulating hormone (FSH) to form secondary follicles. The primary follicles form from primordial follicles, which develop in the ovary as a fetus during conception and are arrested in the prophase state of the cellular cycle.

By around day 9 of the menstrual cycle, only one healthy secondary follicle remain. The rest are reabsorbed into the ovary. The remaining follicle, called the dominant follicle, is responsible for producing large amounts of estrogen during the late follicular phase.

On day 14 of the cycle, a luteinizing hormone surge is triggered by the positive feedback of estrogen. This causes the secondary follicle to develop into a tertiary follicle, which then leaves the ovary 24–36 hours later. An important event in the development of the tertiary follicle occurs when the primary oocyte completes the first meiotic division, resulting in the formation of a polar body and a secondary oocyte. The empty follicle then forms a corpus luteum which later releases progesterone to maintain a potential pregnancy.

Immediately after meiosis I, the haploid secondary oocyte initiates meiosis II. However, this process is also halted at the metaphase II stage until fertilization occurs. When meiosis II has completed, an ootid and another polar body is created. Both polar bodies disintegrate at the end of meiosis II, leaving only the ootid, which eventually develops into a mature ovum. The formation of polar bodies serves to discard the extra haploid sets of chromosomes that have resulted as a consequence of meiosis.

The menstrual cycle is the scientific term for the physiological changes that occur in fertile women for the purpose of sexual reproduction. The menstrual cycle is controlled by the endocrine system and commonly divided into three phases: the follicular phase, ovulation, and the luteal phase. However, some sources define these phases as menstruation, proliferative phase, and secretory phase. Menstrual cycles are counted from the first day of menstrual bleeding.