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**MATRIC NO: 18/MHS03/039**

**DEPARTMENT: NURSING SCIENCE**

**COLLEGE: MEDICINE AND HEALTH SCIENCES**

**ASSIGNMENT TITLE: FEMALE REPRODUCTIVE PHYSIOLOGY**

**COURSE TITLE: PHYSIOLOGY**

**COURSE CODE: PHS 212**

**QUESTION 1**

Discuss the cyclic CHANGES in any two of the following;

* Cervix
* Vagina
* Breasts

**BREAST**

Each month, women go through changes in the hormones that makeup the normal menstrual cycle. The hormone estrogen is produced by the ovaries in the first half of the menstrual cycle .It Stimulates the growth of milk ducts in the breasts. The increasing level of estrogen leads to ovulation halfway through the cycle. Next, the hormone progesterone takes over in the second half of the cycle. It stimulates the formation of the milk glands. These hormones are believed to be responsible for the cyclical changes that many women feel in their breast just before menstruation. These include swelling, pain and soreness. During menstruation, many women also have changes in breast texture. Their breasts feel very lumpy. This is because the glands in the breast are enlarging to get ready for a possible pregnancy. If pregnancy does not happen, the breasts go back to normal size. Once menstruation starts, the cycle begins again.

**VAGINA**

The cytological examination of vaginal smears showed that the superficial cells increased in number towards the middle of the cycle and the number of intermediate cells declined gradually. Parabasal cells were observed mainly at the beginning of the cycle; they disappeared towards the middle of the menstrual cycle. During the early follicular phase, the cells were moderately separated from each other, and during the second half of the proliferative or follicular phase, the superficial cells appeared clumped together. Leucocytes were usually absent except for at the beginning of the cycle and in the last few days of the late secretory or luteal phase. The maturation index of the vaginal smears can be considered as a tool for distinguishing the different phases of the menstrual cycle. The microscopic examination of the genital organs showed that during the proliferative or follicular phase of the cycle, which corresponds to the development of the ovarian follicles, the uterus showed growth of endometrial glands, stroma and endothelial cells proliferation with capillary sprouts. Shortly after ovulation and parallel to the formation of the corporta lutea, the endometrium enters the secretory or luteal phase, which is characterized by coiling of endometrial glands, glandular secretion and the differentiation of the spiral artery. The most striking changes in the vagina, is the marked basal cell proliferation and thickening of the stratum granulosum during the follicular phase of the menstrual cycle.

**QUESTION 2**

Explicate any one if the following.

* Menstrual cycle
* Hormonal regulation of the menstrual cycle

**ANSWERS**

**THE MENSTRUAL CYCLE**

The menstrual cycle is the monthly series of changes a woman’s body goes through in preparation for the possibility of pregnancy. Each month, one of the ovaries releases an egg (a process called ovulation). At the same time hormonal changes prepare the uterus for pregnancy.

During menstrual cycle, an egg develops and is released from the ovaries. The lining of the uterus builds up. If the pregnancy doesn’t happen, the uterine lining sheds during a menstrual period. Then the cycle starts again.

The menstrual cycle is divided into four (4) phases;

* Menstrual phase
* Follicular phase
* Ovulation phase
* Luteal phase

The length of each phrase can differ from woman to woman and it can change over time.

**MENSTRUAL PHASE**

This is the first stage of menstrual cycle; it is also when a woman gets her period.

It starts when an egg from the previous cycle isn’t fertilizer because pregnancy hasn’t taken place, levels of the hormones estrogen and progesterone drop. During a woman period, a combination of blood, mucus and issues is released from the uterus.

On average, women are on the menstrual phase of their cycle for 3 to 7 days. Some women have longer period than other.

**FOLLICULAR PHASE**

 This phase starts on the first day of your period and ends when you ovulate. It starts when the hypothalamus sends a signal to your pituitary gland to release FOLLICLE- STIMULATING HORMONE (FSH) which stimulates the ovaries to produce around 5 to 20 small sacs called follicles. Each follicle contains an immature egg. Only the healthiest egg will eventually mature. The rest of the follicle will be reabsorbed into the body.

The average follicular phase last for about 16 days. It can range from 11 to 27 days, depending on your cycle.

**OVULATION PHASE**

 The process of ovulation starts when the rising estrogen levels during the follicular phase trigger the pituitary gland to release luteinizing hormone (LH).

Ovulation is when your ovary releases a mature egg. The egg travels down the fallopian tube toward the uterus to the fertilized sperm. It is possible to know that a woman is ovulating by

1. A slight rise on basal body temperature.

2. Thicker discharge that has the texture of egg wholes.

Ovulation happens at around day 14 if you have a 28 days cycle right in the middle of your menstrual cycle. It lasts about 24 hours. After a day, the egg will die or dissolve if it isn’t fertilized.

**LUTEAL PHASE**

In this stage, after the follicle release its egg, it changes into the CORPUS LUTEUM. This structure releases hormones, mainly progesterone and some estrogen. The rise on hormones keeps your uterine lining thick and ready for a fertilized egg to implant.

If a woman gets pregnant, the body will produce human chronic gonadotropin (HCG) which helps maintain the corpus lute van and keeps the uterine lining thick.

If a woman does not get pregnant, the corpus lute van will shrink away and be resorbed. This leads to decreased levels of estrogen and progesterone, which causes the onset of your period. The uterine lining will shed during your period.