

Onwughalu chiamaka Vivian

18/mhs07/044

Phs 212

Question;

Briefly discuss the CYCLIC CHANGES in any two of the following:

a) CERVIX (b) VAGINA (c) BREASTS

Explicate any one of the following:

1) Menstrual cycle

2) Hormonal regulation of the menstrual cycle

Answers

b)VAGINA

Vaginal examinations were performed 3 times in 74 women: at the menstrual phase (days 1–5), the preovulatory phase (days 7–12), and the postovulatory phase (days 19–24). Flora of 50 women without bacterial vaginosis (BV) was analyzed separately from flora of 24 women with BV. The volume of vaginal discharge increased and the amount of cervical mucus decreased over the menstrual cycle. Among subjects without BV, the rate of recovery of any *Lactobacillus* changed little (range, 82% to 98%; $P = .2$); however, a small increase occurred in the rate of recovery of heavy (3+ to 4+ semiquantitative) growth of *Lactobacillus* over the menstrual cycle ($P = .04$). A linear decrease occurred in the rate of recovery of heavy growth of any non-*Lactobacillus* species, from 72% at days 1–5 to 40% at days 19–24 ($P = .002$). A linear decrease also occurred in the rate of recovery of *Prevotella* species, from 56% on days 1–5 to 28% on days 19–24 ($P = .007$), while a small linear increase occurred in the rate of recovery of *Bacteroides fragilis* ($P = .05$). Among subjects with BV, the only significant change was an increase in the rate of recovery of *Lactobacillus*, from 33% at days 1–5 to 54% at days 19–24 ($P = .008$). Among all subjects, the rate of recovery of heavy growth of *Lactobacillus* increased over the menstrual cycle and, in contrast, the concentration of non-*Lactobacillus* species tended to be higher at menses, which is evidence that the vaginal flora becomes less stable at this time.

c) BREASTS

The volumes and spin-lattice (T1) relaxation times of breast tissues and parenchymal water content were measured non-invasively by magnetic resonance imaging (MRI) in eight healthy women

during four to eight consecutive menstrual cycles. Total breast volume, and parenchymal volume, T1 relaxation time and water content were lowest between days 6 and 15. Between days 16 and 28, parenchymal volume, T1 relaxation time and water content rose sharply by 38.9%, 15.1% and 24.5%, respectively, and peaked after day 25. Within 5 days of the onset of menses, parenchymal volume fell sharply by 30.3%, while water content declined by 17.5%. Rising parenchymal volume in the second half of the menstrual cycle is not solely due to increased tissue water content and provides in vivo evidence for both growth and increased tissue fluid at this time. Breasts can go through changes during a menstrual cycle. They get tender, and even seem to shift a bit in size and shape.

Chalk it up to the ebb and flow of hormones such as estrogen and progesterone over the course of your cycle.

Breast symptoms are the strongest just before your period starts, and improve either during or right after it.

Every woman is different. But it's common to have one or more of the following:

- Swelling
- Tenderness
- Aches
- Soreness
- Changes in texture

1) MENSTRUAL CYCLE

The menstrual cycle is controlled by a complex orchestra of hormones, produced by two structures in the brain, the pituitary gland and the hypothalamus along with the ovaries.

General overview of the menstrual cycle:

The menstrual cycle includes several phases. The exact timing of the phases of the cycle is a little bit different for every woman and can change over time.

Cycle days (approximate)

Events of the menstrual cycle

Days 1-5

The first day of menstrual bleeding is considered Day 1 of the cycle.

Your period can last anywhere from 3 to 8 days, but 5 days is average.

Bleeding is usually heaviest on the first 2 days.

Days 6-14

Once the bleeding stops, the uterine lining (also called the endometrium) begins to prepare for the possibility of a pregnancy.

The uterine lining becomes thicker and enriched in blood and nutrients.

Day 14-25

Somewhere around day 14, an egg is released from one of the ovaries and begins its journey down the fallopian tubes to the uterus.

If sperm are present in the fallopian tube at this time, fertilization can occur.

In this case the fertilized egg will travel to the uterus and attempt to implant in the uterine wall.

Days 25-28

If the egg was not fertilized or implantation does not occur, hormonal changes signal the uterus to prepare to shed its lining, and the egg breaks down and is shed along with lining.

The cycle begins again on Day 1 menstrual bleeding.

Each month during the years between puberty and menopause, a woman's body goes through a number of changes to get it ready for a possible pregnancy. This series of hormone-driven events is called the menstrual cycle.

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

Then the cycle starts again.

A woman's menstrual cycle is divided into four phases:

- menstrual phase
- follicular phase
- ovulation phase
- luteal phase

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

Menstrual phase

The menstrual phase is the first stage of the menstrual cycle. It's also when you get your period.

This phase starts when an egg from the previous cycle isn't fertilized. Because pregnancy hasn't taken place, levels of the hormones estrogen and progesterone drop.

The thickened lining of your uterus, which would support a pregnancy, is no longer needed, so it sheds through your vagina. During your period, you release a combination of blood, mucus, and tissue from your uterus.

You may have period symptoms like these:

- cramps (try these home remedies)
- tender breasts
- bloating
- mood swings
- irritability
- headaches
- tiredness
- low back pain

On average, women are in the menstrual phase of their cycle for 3 to 7 days. Some women have longer periods than others.

Follicular phase

The follicular phase starts on the first day of your period (so there is some overlap with the menstrual phase) and ends when you ovulate.

It starts when the hypothalamus sends a signal to your pituitary gland to release follicle-stimulating hormone (FSH). This hormone stimulates your ovaries to produce around 5 to 20 small sacs called follicles. Each follicle contains an immature egg.

Only the healthiest egg will eventually mature. (On rare occasions, a woman may have two eggs mature.) The rest of the follicles will be reabsorbed into your body.

The maturing follicle sets off a surge in estrogen that thickens the lining of your uterus. This creates a nutrient-rich environment for an embryo to grow.

The follicular stage lasts for about 16 days. It can range from 11 to 27 days, depending on your cycle.

Ovulation phase

Rising estrogen levels during the follicular phase trigger your pituitary gland to release luteinizing hormone (LH). This is what starts the process of ovulation.

Ovulation is when your ovary releases a mature egg. The egg travels down the fallopian tube toward the uterus to be fertilized by sperm.

The ovulation phase is the only time during your menstrual cycle when you can get pregnant. You can tell that you're ovulating by symptoms like these:

- a slight rise in basal body temperature
- thicker discharge that has the texture of egg whites

Ovulation happens at around day 14 if you have a 28-day 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

After the follicle releases its egg, it changes into the corpus luteum. This structure releases hormones, mainly progesterone and some estrogen. The rise in hormones keeps your uterine lining thick and ready for a fertilized egg to implant.

If you do get pregnant, your body will produce human chorionic gonadotropin (hCG). This is the hormone pregnancy tests detect. It helps maintain the corpus luteum and keeps the uterine lining thick.

If you don't get pregnant, the corpus luteum 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.

During this phase, if you don't get pregnant, you may experience symptoms of premenstrual syndrome (PMS). These include:

- bloating
- breast swelling, pain, or tenderness
- mood changes
- headache
- weight gain
- changes in sexual desire
- food cravings
- trouble sleeping

The luteal phase lasts for 11 to 17 days. The average length is 14 days.