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Question

1. Briefly discuss the cyclic changes in any of the two of the following
2. Cervix
3. Breast
4. Vagina

1. Explicate one of the following
2. Menstrual cycle
3. Hormonal regulation of menstrual cycle

1. Breast: Each month, women go through changes in the hormones that make up 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 breasts just before menstruation. These include swelling, pain, and soreness.

During menstruation, many women also have changes in breast texture. Their breasts may 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.

1. Vagina: In the course of the reproductive cycle, the vaginal epithelium is subject to normal, cyclic changes, that are influenced by estrogen: with increasing circulating levels of the hormone, there is proliferation of epithelial cells along with an increase in the number of cell layers.As cells proliferate and mature, they undergo partial cornification. Although hormone induced changes occur in the other tissues and organs of the female reproductive system, the vaginal epithelium is more sensitive and its structure is an indicator of estrogen levels.Some Langerhans cells and melanocytes are also present in the epithelium.The epithelium of the ectocervix is contiguous with that of the vagina, possessing the same properties and function.The vaginal epithelium is divided into layers of cells, including the basal cells, the parabasal cells, the superficial squamous flat cells, and the intermediate cells. The superficial cells exfoliate continuously and basal cells replace the superficial cells that die and slough off from the stratum corneum. Under the stratus corneum is the stratum granulosum and stratum spinosum.The cells of the vaginal epithelium retain a usually high level of glycogen compared to other epithelial tissue in the body. The surface patterns on the cells themselves are circular and arranged in longitudinal rows.The epithelial cells of the uterus possess some of the same characteristics of the vaginal epithelium.
2. 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:

1. menstrual phase
2. follicular phase
3. ovulation phase
4. 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:

1. cramps (try these home remedies)
2. tender breasts
3. bloating
4. mood swings
5. irritability
6. headaches
7. tiredness
8. 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 average follicular phase 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 lengthTrusted Source is 14 days.

**Identifying common issues**

Every woman’s menstrual cycle is different. Some women get their period at the same time each month. Others are more irregular. Some women bleed more heavily or for a longer number of days than others.

Your menstrual cycle can also change during certain times of your life. For example, it can get more irregular as you get close to menopause.

One way to find out if you’re having any issues with your menstrual cycle is to track your periods. Write down when they start and end. Also record any changes to the amount or number of days you bleed, and whether you have spotting between periods.

Any of these things can alter your menstrual cycle:

**Birth control**. The birth control pill may make your periods shorter and lighter. While on some pills, you won’t get a period at all.

**Pregnancy**. Your periods should stop during pregnancy. Missed periods are one of the most obvious first signs that you’re pregnant.

**Polycystic ovary syndrome (PCOS)**. This hormonal imbalance prevents an egg from developing normally in the ovaries. PCOS causes irregular menstrual cycles and missed periods.

**Uterine fibroids**. These noncancerous growths in your uterus can make your periods longer and heavier than usual.

**Eating disorders**. Anorexia, bulimia, and other eating disorders can disrupt your menstrual cycle and make your periods stop.

Here are a few signs of a problem with your menstrual cycle:

You’ve skipped periods, or your periods have stopped entirely.

Your periods are irregular.

You bleed for more than seven days.

Your periods are less than 21 days or more than 35 days apart.

You bleed between periods (heavier than spotting).

If you have these or other problems with your menstrual cycle or periods, talk to your healthcare provider.

The takeaway

Every woman’s menstrual cycle is different. What’s normal for you might not be normal for someone else.

It’s important to get familiar with your cycle — including when you get your periods and how long they last. Be alert for any changes, and report them to your healthcare provider.