

MENSTURAL DISORDERS

Lecture 2

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Objectives

- ▶ Understand the normal menstrual cycle
- ▶ Understand the importance of a complete history and physical exam in the evaluation of menstrual complaints
- ▶ Be familiar with the common menstrual disorders.

MENSTRUATION

A menstrual cycle (a female reproductive cycle) is episodic uterine bleeding in response to cyclic hormonal changes. The purpose of a menstrual cycle is to bring an ovum to maturity and renew a uterine tissue bed that will be responsible for the ova's growth should it be fertilized. It is the process that allows for conception and implantation of a new life.

Physiology of Menstruation

Four body structures are involved in the physiology of the menstrual cycle: the hypothalamus, the pituitary gland, the ovaries, and the uterus. For a menstrual cycle to be complete, all four structures must contribute their part; inactivity of any part results in an incomplete or ineffective cycle.

Characteristics of Normal Menstrual Cycle :

- * Average age menarche (12 or 13) years. (First menses).
- * Range (9–17) years.
- * Interval: every 28 days, range (23–35) days.
- * Duration: (2–7) days.
- * Amount: (30–80 ml) blood discharge.
- > 80 ml (need iron supplement).

Iron loss (0.5–1 mg).

- * Component: without clot, mucous, epithelial cells, and blood.

Menstrual Cycle Divisions:

A. Endometrial cycle (occurring in the uterus).

1. Menstrual phase: (1–5) days.

Actual blood discharge, cyclic uterine bleeding after ovulation in response to decrease level of estrogen and progesterone.

2. Proliferation phase: (5–14) days.

Rapid growth of endometrial layer but not like secretory phase, due to increase of the level of estrogen. The characteristics of the blood are dense, and slightly vascular.

3. Secretory phase: (14–27) days.

More growth in the endometrial layer. The characteristics of this phase are highly vascular, soft and edematous, tortuous glands, implantation occurs when the zygote constructed.

Decrease blood supply to the endometrial layer.... Necrosis of the cells... Shedding of the layers as a result of decrease progesterone and estrogen.

B. Hypothalamus–Pituitary cycle:

Decrease of the estrogen and progesterone.... Stimulate hypothalamus.... Stimulate GnRH..... Stimulate anterior pituitary gland..... Release FSH (which acts on the ovaries).

Decrease of estrogen Stimulate GnRH Stimulation release of LH the day of 13 or 14 (the peak of LH).... Ovulation occurs.

The day of 13 or 14 after ovulation as a result of decrease estrogen, become mid-cycle bleeding. (Blood with mucus) (Withdrawal bleeding).

C. Ovarian cycle: (occur in the ovaries). Divided into two phases:

1. Follicular phase: (FSH)

Maturation of ovum, from the end of mense till ovulation.

2. Luteniezing phase: (LH)

Expulsion of mature ovum, called (graafian), (ovulation), from ovulation till the beginning of the next menses.

Normal Menstrual Cycle

Hypothalamus

GnRH

Pituitary

LH, FSH

Ovaries

Follicular (Proliferative) Phase

FSH

Ovarian Follicles

Dominant Follicle

Estradiol (Estrogen)

Endometrial Thickening

Ovulatory and Luteal (Secretory) Phases

Increased Estradiol

Increased LH

Ovulation

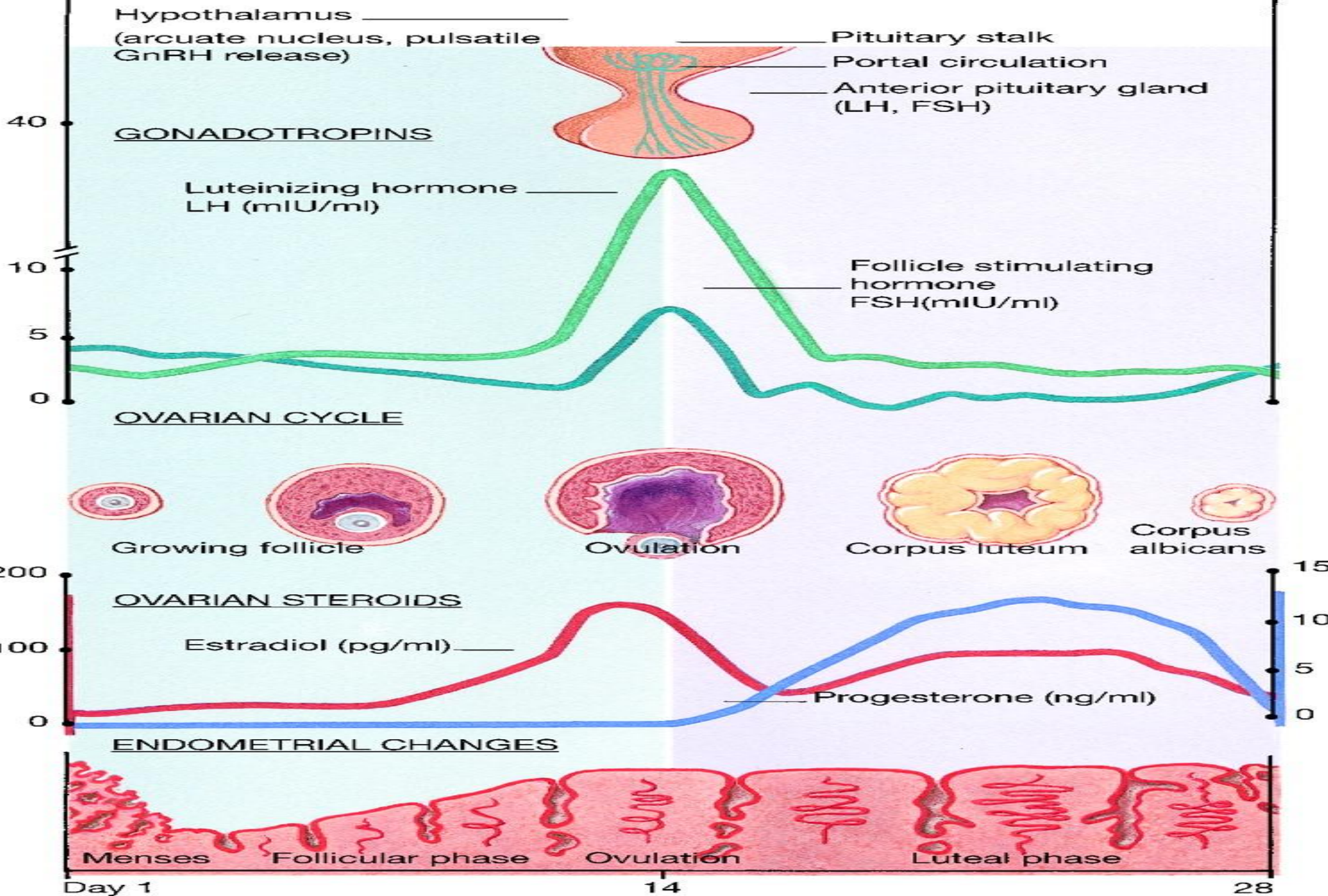
Follicle becomes Corpus Luteum

Progesterone

Estrogen

Stabilize Endometrium

Endometrial Thickening



Menstrual Disorders

There are a number of different menstrual disorders.

Problems can range from heavy, painful periods to no period at all.

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*TABLE 5.2 * Teaching About Menstrual Health*

1. Dysmenorrhea (Painful Cramps)

- ▶ **Painful menstrual cramps**
- ▶ **Painful menses without evidence of a physical abnormality**
- ▶ **Believed to be normal body response to uterine contractions**

Dysmenorrhea (Painful Cramps)

- ▶ **Nausea, vomiting, gastrointestinal disturbances.**
- ▶ **Prostaglandins cause forceful, frequent uterine contractions called cramps**
- ▶ Pain occurs in the lower abdomen but can spread to the lower back and thighs.
- ▶ Dysmenorrhea is usually referred to as primary or secondary.

a. Primary dysmenorrhea

- Cramps occur from contractions in the uterus. These contractions are a normal part of the menstrual process.
- With primary dysmenorrhea, cramping pain is directly related to and caused by menstruation.
- About half of menstruating women experience primary dysmenorrhea.
- It usually begins two to three years after a woman begins to menstruate.
- pain typically develops when the bleeding starts and continues for up to 48 hours.
- Cramps are generally most severe during heavy bleeding.

Secondary dysmenorrhea

- ▶ Secondary dysmenorrhea is menstrually related pain that accompanies another medical or physical condition.

Treatment

- ▶ Identify cause & manage pain
- ▶ Analgesics & NSAIDS
- ▶ Oral contraceptives
- ▶ Diet changes: decrease salt, sugar, caffeine (fluid consumption); increase protein, Ca, Mg & Vit B
- ▶ Balance rest & exercise

2. Menorrhagia (Heavy Bleeding)

- ▶ **During normal menstruation the average woman loses about (60 ml) or less of blood. Menorrhagia is the medical term for significantly heavier bleeding.**
- ▶ **Menorrhagia occurs in 9 - 14% of all women and can be caused by a number of factors.**
- ▶ **Women often overestimate the amount of blood lost during their periods.**

▶ **However, women should consult their doctor if any of the following occurs:**

- 1- Soaking through at least one pad every hour for several hours.**
- 2- Heavy periods that regularly last 10 or more days.**
- 3- Bleeding between periods.**

3. Amenorrhea (Absence of Menstruation)

- ▶ **Amenorrhea is the absence of menstruation. There are two categories: primary amenorrhea and secondary amenorrhea.**
- ▶ **These terms refer to the time when menstruation stops**

Amenorrhea (Absence of Menstruation)

a. Primary amenorrhea

- ▶ occurs when a girl does not begin to menstruate.
- ▶ Girls who show no signs of sexual development (breast development and pubic hair) by age 14 should be evaluated.
- ▶ Girls who do not have their periods by two years after sexual development should also be checked.
- ▶ Any girl who does not have her period by age 16 should be evaluated for primary amenorrhea.

Amenorrhea (Absence of Menstruation)

b. Secondary amenorrhea

- ▶ **occurs when periods that were previously regular become absent for at least three cycles.**

4. Oligomenorrhea (Light or Infrequent Menstruation)

- ▶ Is a condition in which menstrual cycles are infrequent. It is very common in early puberty and does not usually indicate a medical problem. When girls first menstruate they often do not have regular cycles for a couple of years.
- ▶ Even healthy cycles in adult women can vary by a few days from month to month. In some women, periods may occur every three weeks and in others, every five weeks.

Oligomenorrhea

(Light or Infrequent Menstruation)

- ▶ Flow also varies and can be heavy or light.
- ▶ Skipping a period and then having
- ▶ a heavy flow may occur; this is most likely due to missed ovulation rather than a miscarriage. Women should be concerned when periods come less than 21 days or more than three months apart, or if they last more than ten days. Such events may indicate ovulation problems.

5. Premenstrual Syndrome (PMS) Symptoms

- ▶ Symptoms occur 7-10 days prior & are relieved when menstrual flow begins
- ▶ inability to concentrate, depression, irritability, anxiety, mood swings, anger, aggressive behavior, acne, herpes recurrence, backache, edema, food cravings, wt. gain, increase susceptibility to infection.
- ▶ Once established, the symptoms tend to remain fairly constant until menopause, although they can vary from cycle to cycle.

Premenstrual Syndrome (PMS)

Pathophysiology

- ▶ Not clearly understood; thought to be from hormonal fluctuations & increase in aldosterone
- ▶ Aldosterone contributes to bloating & edema.
- ▶ Must keep diary/calendar of symptoms for several months to make accurate diagnosis

Premenstrual Syndrome (PMS) Treatment

- ▶ Management focuses on diet, exercise, relaxation & stress management
 - Diet high in complex CHO, Ca, Mg & Vit B
 - Diet low in sugar, caffeine & salt
 - Exercise & rest are both important
 - Relaxation techniques: breathing, meditation, relaxation.

Any Questions
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Thank you