

Physiology of the Reproductive System

☆ **Definitions:**

A. Puberty:

1. *Where:* It is a period of time during which childhood develops into maturity & the female becomes capable of reproduction
2. *When:* It usually occurs between the ages of 12-16 years, though, several factors might influence its early or late appearance.
3. *How:* Early in the course of puberty, the following takes place:
 - i. Axillaries & pubic hair appears.
 - ii. Signs of breasts increase.
 - iii. Signs of external genitalia increase.
 - iv. Then the establishment of menstrual cycle (Menarche) follows external.
 - v. Changes indicating the full maturity of the internal sexual organs

B. Ovulation:

It is the expulsion of a mature ovum from the ovary about 14 days before the next period.

C. Menstruation:

1. *What:* It is the periodic discharge of blood, mucous, & epithelial cells from the uterus (shedding of superficial layer of endometrium).
2. *When:* It occurs at monthly intervals throughout the woman's reproductive life except during pregnancy & may be lactation.

D. Menopause:

It is the cessation of menstruation that usually occurs in the early 50 years of age

- *Late menarche* —————→ *Early menopause*
- *Early menarche* —————→ *Late menopause*

☆ **Hormones of the Anterior Pituitary Gland**

A. Gonadotrophic hormones:

They have a stimulating effect on the hormone production in the ovaries. They are:

1. *F.S.H. (Follicle Stimulating Hormone)*
2. *L.H. (Luteinizing Hormone):*

Causes rupture of the graafian follicle and liberation of the mature ovum, i.e., ovulation, and subsequent formation of corpus luteum.

B. Prolactine or Lutotrophic hormones:

This hormone causes the milk secretion after delivery.

☆ **Uterine Cycle**

A. Menstrual Phase:

1. From day 1 to 4
2. 4 days
3. Endometrium is shed, except for the base layer.

B. Proliferative Phase:

1. From day 5 to 14
2. 10 days
3. Repair & building of the endometrium under the influence of estrogen & progesterone produced by the maturing primordial graafian follicle

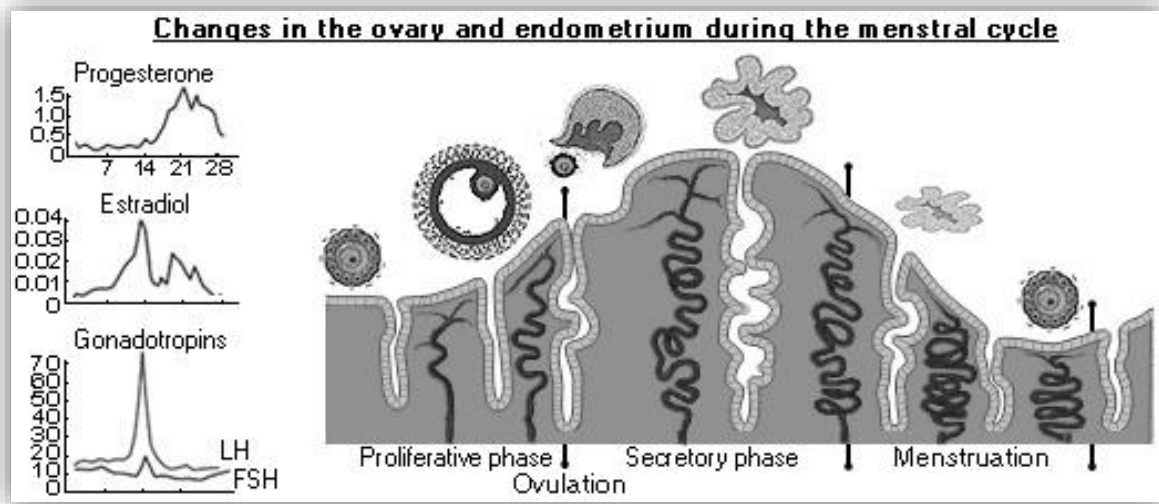
C. Secretory Phase:

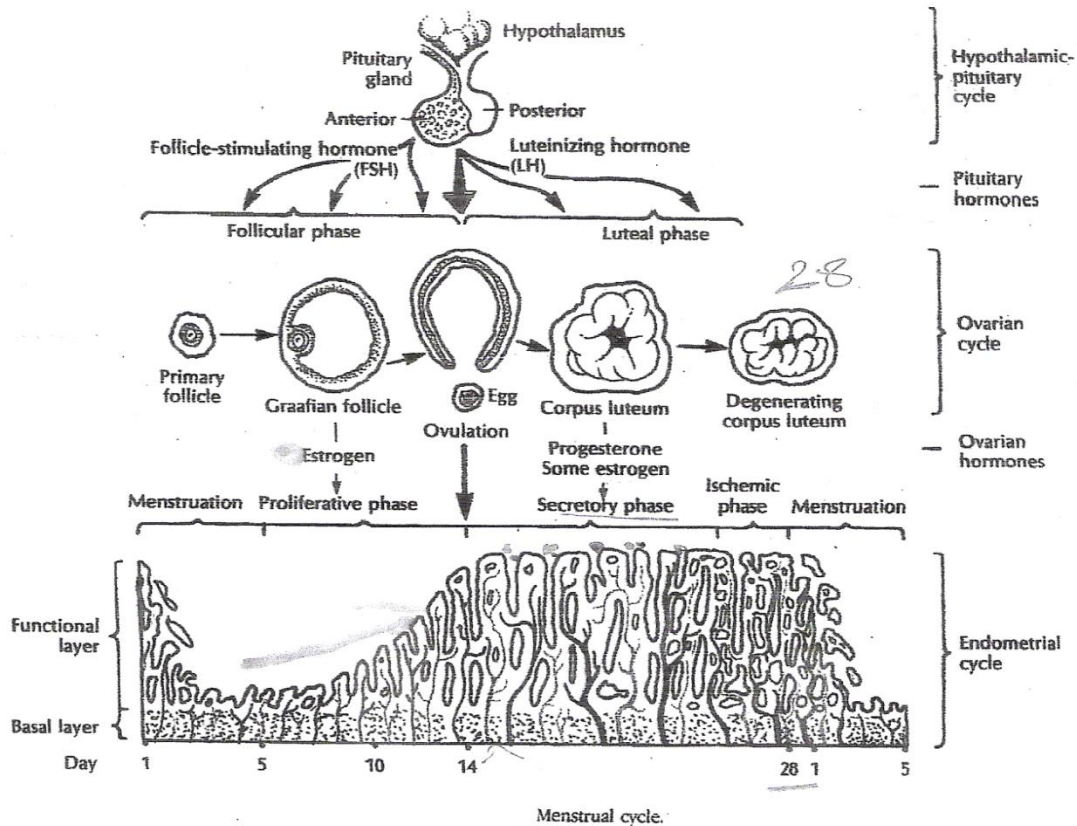
1. From day 15 to 25
2. 11 days
3. Endometrium keeps on building & Storing glycogen, mucous, & other substances which can nourish a fertilized ovum

D. Regressive Phase:

1. From 26 to 28
2. 3 days

3. Endometrium growth & secretion ceases ischemia of surface layer cells die bleeding below surface menstruation.





☆ **Premenstrual Syndrome:**

A. Signs & Symptoms:

Usually appears one week prior to menses but may also appear up to two weeks or just several days before menses, and include:

1. Mood fluctuations
2. Depression
3. Fatigue
4. Weight gain
5. Headache
6. Irritability
7. Breast tenderness
8. Increased appetite

B. Treatment:

Treatment consists of alleviation of the signs & symptoms described above through diet and exercise plan and/or medication

1. Diet Recommendations:

- i. Limit your consumption of refined sugar, i.e., cookies, cakes, jelly, honey.
- ii. Limit your salt intake to 3gms or less per day, i.e., avoid using the saltshaker.
- iii. Avoid caffeine, i.e., coffee, tea, chocolate, soft drinks.
- iv. Increase your intake of complex carbohydrates, i.e., fresh fruits, vegetables, whole grains, pasta, rice, potatoes.
- v. Consume moderate protein and fat. Limit your red meat consumption to 3 times weekly.

These dietary changes should be an ongoing process. It is not enough to modify your diet solely prior to menstruation.

2. Exercise Recommendations:

Exercise three times per week for 30-40 minutes. *Examples:* brisk walking, jogging, aerobic dancing, swimming.

3. Vitamins:

Vitamin B6 may be taken, 100 mg daily, and note that: *Vitamin use should be individualized according to the onset of symptoms. Take 50-100 mg daily and then 200-400 mg (not to exceed 800 mg) at onset of symptoms.*