

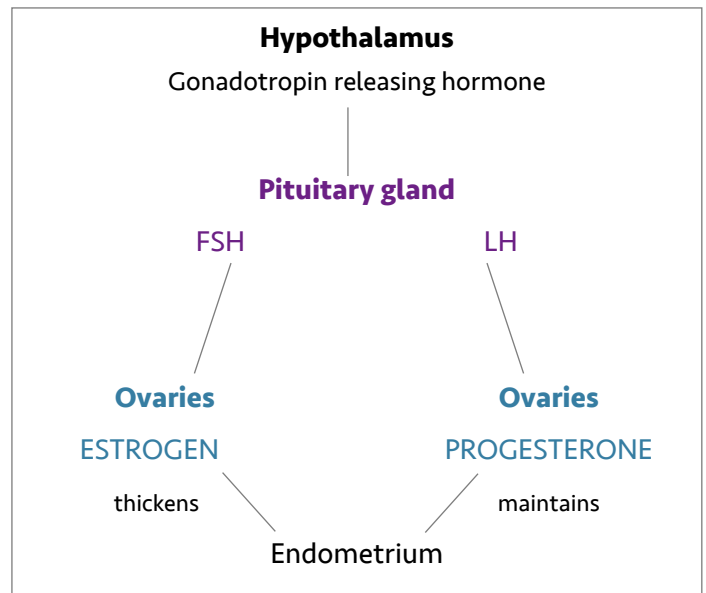
Obstetrics/Gynecology Registry Review

Study Guide

Normal Menstrual Cycle

Think about the whole purpose of the cycle. To get pregnant. So that means 2 main important things needs to happen: there must be an egg released and an endometrium prepared. All steps in the cycle are a means to that end.

Hypothalamus releases gonadotropin-releasing hormone to regulate release of hormones by the anterior pituitary gland. The pituitary gland releases FSH. FSH stimulates ovaries to develop follicles and maturation of the dominant follicle. Follicles in turn produce estrogen. As the dominant follicle reaches maturity, there is a peak in estrogen levels. This signals the pituitary to release the LH surge. This stimulates the rupture of the dominant follicle = ovulation. The ruptured dominant follicle is now termed the corpus luteum which secretes progesterone and small amounts of estrogen.



Effects on the endometrium

The endometrium is directly affected by estrogen and progesterone. Estrogen thickens the endo and progesterone maintains it and prepares for implantation.

If no pregnancy occurs, the corpus luteum regresses and progesterone levels drop. When the progesterone decreases, the endometrium begins to slough off and menses begins

Timing, Phases, Appearance

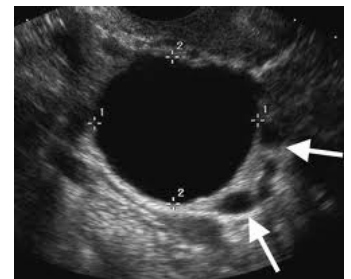
Days 1- 14 Ovary

Follicular phase of ovary FSH stimulates follicle development and dominant follicle matures increasing to about 2.5 - 2.7cm until ovulation around day 14. Follicles release estrogen

Days 1-14 Endometrium

Menstrual phase Days 1-5 approx are menses and shedding of endo (no specific appearance)

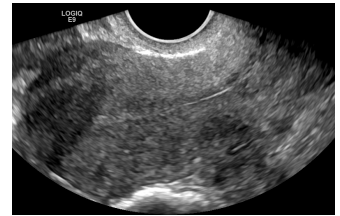
Proliferative phase Days 6-14 Endo changes so much during this phase, so we must use terms early or late depending on where we are in this phase



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Early proliferative Immediately following menses, endo is thin, echogenic and measures no more than 4mm



Late proliferative (periovulatory) will reach 6-10mm and appears as "three line sign" (echogenic rim is basal layer surrounding hypoechoic functional).



DAY 14 *Ovulation.* LH surges causes rupture of dominant follicle, releasing ovum. Free fluid may be settle in post CDS. Ovulation occurs 14 days prior to the start of the next menstrual cycle.

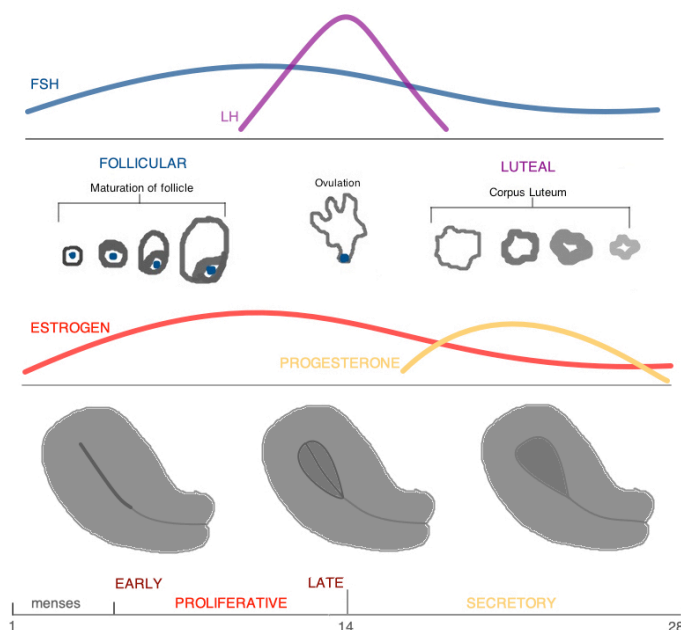
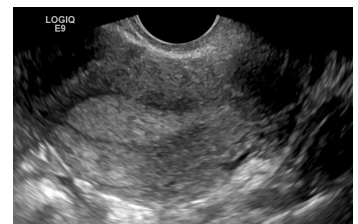
When calculating ovulation day = subtract 14 from # of total cycle days

Example: In a 36 day cycle, ovulation would occur on day 22 ($36 - 14 = 22$)

Days 15-28

Luteal phase of ovary Graafian follicle becomes corpus luteum which produces progesterone to maintain endo thickness. Towards end of phase corpus luteum regresses if no fertilization

Secretory phase of endo Progesterone maintains thickness to prepare for implantation. Endo appears thick and echogenic 7-16mm. Menses normally begins day 28 due to progesterone drop



Ovarian and Endometrial Relationship

Since the ovaries produce the hormones that stimulate the endo, they will "match"

Pay attention to the question, as it may show you an endometrium but ask about ovarian events.

- Follicular goes with Proliferative
- Ovulation with Late Proliferative
- Luteal with Secretory