

Menopause

- Ovaries stop functioning. "end of monthly cycles"
- The average age of menopause has been increasing since the end of 19th century till now .This is due to the improvements of life style.

Premature Menopause

- It is not considered to be due to the normal effects of aging.
- Might increase the risk for certain medical conditions such as heart diseases and osteoporosis (due to the notable decrease in the level of estrogen in plasma).
- The doctor mentioned several stories, one of them about a woman that give birth to a child at the age of 67 >> the conclusion: This woman doesn't have menopause yet, her ovaries are still functioning even at this old age!! It is not necessary that this woman would have an abnormal child.

Gonadotropins (FSH & LH)

- In females – high at menopause.
- In Males – low, because of the presence of Androgens.

Infertility

- Affects 1 out of 5 women in the United States.
- Although of the good Understanding of female endocrinology, histological and anatomical backgrounds of infertility is still a very critical problem.

Several factors might cause infertility:

1. Environmental.
2. Disorders of the central nervous system.
3. Hypothalamic diseases.
4. Pituitary disorders.
5. Ovarian abnormalities.

These can interfere with hormonal production and/or ovulation.

The most common cause of female sterility is failure to ovulate.

Contraceptives

- The doctor put a table under the title of (Contraceptive Use and Efficacy Rates in the United States)
- The ones with the most side effects but yet mostly used are the Pills.
- The one with the least side effects is the least to be used - Intrauterine device-
- This is because the pills are very easy to be used.
- To use the Intrauterine device, the woman should have one baby at least (it is sometimes preferred that she has 2), because this device might lead to infertility.

Menstrual cycle

- The duration of the cycle is about 28 days; this is the average in almost 85% of women.
- Ovulation occurs at day 14.
- Sometimes the duration shortens or prolongs. So we could say the average duration is 28 days (+ or – 7) that is equal to (21-35) days. Shorter than 21 never recorded but longer than 35 was recorded up to 42.
- Recall: The second half of the cycle is constant, always two weeks.
- The cycle regularity is not changed in normal females (i.e. the duration of the period is almost constant all the time in a normal female –for ex. Every 28 days, there's menstruation-, except upon stress, having an illness; like flu, or upon the use of certain medications).
- Life span of the ovum and sperm:

Most sperms will die within 1-2 days after ejaculation, even inside the uterus.

On the other hand, the ovum has a life-span of only about 12-24 hours at most from the time it bursts (ovulates) from the ovary.

- If the couple wants to reduce the chances of pregnancy, they should avoid the sexual intercourse within three days before the onset of ovulation (14 minus 3) and 3 days after (14 plus 3).
- From day 11 to 17 (in a typical menstrual cycle: 28 days), this is the unsafe period (U.S.P). From 17 to the end of the cycle (day 28) this is the safe period (S.P). From the end of menses to the 11th day, this period is probably safe period (P.S.P)
- However, this method of contraception doesn't work as expected all the time, there might be pregnancy in some cases.

Examples:

If a woman cycle is 32 days, ovulation day is $32 - 14 = 18$, then $18 - 3 = 15$ and $18 + 3 = 21$, so the unsafe period is (15 to 21). After 21 (22-32) is considered safe & Before 15 is probably safe.

If Cycle duration is 35 days, ovulation day is $35 - 14 = 21$, then $21 - 3 = 18$ and $21 + 3 = 24$, so the unsafe period is (18 to 24). After 24 is safe & Before 18 is probably safe.

Notes:

- The pills are given from the first day of the cycle up to 21 days.
- Some pills are given for 6 months and some up to 5 years...Review Pharmacology regarding contraceptive methods.

Functions of Estrogen:

1. Acts Against osteoporosis, given in minor quantities after the age of 45 years to protect the female from osteoporosis, and under medical supervision.
2. For the purposes of beauty.
3. Against facial and body hair.
4. For sex drive.
5. For size of the breast.
6. To prevent urine incontinence, by working on the internal urethral sphincter.
7. Against Alzheimer and amnesia.
8. Decreases LDL levels & increases HDL levels in blood.

>>Many women use Estrogen for its variable benefits.

Good Luck ^__^