Menopause

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The menopause is defined as the woman's final menstrual period. The accepted confirmation of this is made retrospectively after 1 year of amenorrhea. The cause of the menopause is cessation of regular ovarian function.
Female life expectancy has increased over the last 100 years, but there has been no change in the age of menopause.
The stages of the menopause

1. Perimenopause: The 3-5 year period before menopause when your estrogen and hormone levels begin to drop is called [……………]
2. The menopause: The final menstrual period (no more eggs)
3. Postmenopause: Starts when you have had no periods for 12 months
When does the menopause happen?

- The menopause can start at any time from late 30s to late 50s. For most women it happens between age **45 and 55**.
- A natural menopause between the ages of **40 and 45** is called an **early menopause**.
- A natural menopause before the **age of 40** is considered a **premature menopause** which is mostly idiopathic.
Endocrine changes
Laboratory markers of menopause include the following:

- An increase in serum follicle-stimulating hormone (FSH) and decreases in estradiol and inhibin are the major endocrine changes that occur during the transition to menopause.
- FSH levels are higher than luteinizing hormone (LH) levels, and both rise to even higher values than those seen in the surge during the menstrual cycle.
- [..........] is the diagnostic marker for ovarian failure, while LH is not necessary to make the diagnosis.
- No specific changes in thyroid function related to menopause have been found.
The diagnosis of menopause is a largely clinical diagnosis that is made according to symptoms experienced, mostly due to lack of estrogen.
The special circumstance of diagnosis of menopause in a woman who has undergone:

- Hysterectomy (uterus removed)—symptoms appear ……
- Oophorectomy (ovaries removed)—symptoms appear ………
Non-physiological menopause

- Premature ovarian insufficiency
- Iatrogenic menopause – medical treatments and menopause after cancer treatment
- Iatrogenic menopause – surgical menopause
Premature ovarian insufficiency

- If (……………………………………………………) it is defined as premature ovarian insufficiency (POI), also sometimes called premature ovarian failure (POF).

- It is thought to occur in approximately 1% of women under 40 years and 0.1% under 30 years. It is a distressing diagnosis for a woman to receive, especially if it occurs prior to the completion of her family.

- While (…………………) in most cases of primary POI, a suspected case should be investigated for possible causes.
III. Causes of Premature Menopause

A. Abnormal karyotypes involving X chromosome (Turner syndrome, fragile X syndrome)
B. Autoimmune: polyendocrine syndromes (hypothyroid, adrenal insufficiency, hypoparathyroidism, type 1 diabetes mellitus), myasthenia gravis, rheumatoid arthritis, systemic lupus erythematosus
C. Environmental: pelvic radiation, chemotherapy (especially alkylating agents), hysterectomy even without oophorectomy, uterine artery embolization
Iatrogenic menopause – medical treatments

Mechanism:
- GnRH analogue
- Pulsatile → agonist
- Continuous → antagonist
- Downregulation of GnRH receptor in pituitary
- ↓ FSH/LH
Iatrogenic menopause – surgical menopause

- Bilateral salpingo-oophorectomy (BSO).

- consider:
  1-the correct time in their life for the procedure
  2-plans for how they can manage the sudden hormone deficits that they will have to endure.
Thank you