Menopause

Permanent cessation of menstruation / periods for 12 months

perimenopause: period around menopause.
period of 4-5 years before menopause where menopausal transition occur

Endocrinology of menopause

- Fall in serum estradiol to 10-20 pg/ml after menopause
- ↓ the negative feed back effect on hypothalamic pituitary axis resulting in increase in FSH.
- An FSH >20 is dx of menopause
- LH also ↑
- inhibin ↓es.

Anatomical changes:

- Ovaries shrink become atrophic.
- wrinkling of skin
- Breast: deposition of fat, reduced glandular tissue
- vagina: Pale and dyspareunia.
- Small, atrophic, thin endometrium.
- greying of hair, facial hirsuitism.

Physiological changes of menopause.

- Vaso motor symptoms
- Urogenital atrophy
- osteoporosis and fracture
- Cardio vascular diseass
- cerebro vascular disease.
- Psychological changes
- Skin & Hair
- sexual dysfunction
- Dementia & cognitive decline

Immediate Symptoms:

1. Vasomotor Symptom

- characteristic symptoms of menopause is a "hot flush"
- Hot flush is characterized by sudden feeling of heat followed by profuse sweating
- Hot flashes are mediated by thermoregulatory dysfunction at level of hypothalamus
- thermo regulatory center is innervated by kisspeptin neurokinin and dystrophin neurons (KNDy neurons) Estrogen inhibit KNDy neuron, after menopause estrogen decrease → negative effect goes and thermo regulatory dysfunction occurs in the form of hot flashes
- main cause of hot flashes : ↓ Estrogen
- management : Hormone replacement therapy HRT
- mild hot flashes - Re assurance with vitamin E
- moderate to severe hot flashes - HRT

Treatment : - Life style modifications
- ✓ clonidine
- ✓ phytoestrogens
- ✓ HRT

2. mood disorders : mood swings
   Depression
   Anexity
   Irritability.

3. cognitive dysfunction : Poor concentration
   Poor memory
   Tiredness
   lack of motivation.

4. sexual dysfunction
   - Dyspareunia
   - vaginal dryness
   - decreased libido

5. → Urinary symptoms
   - urinary ~~incomp~~ incontinence
   - Dysuria and frequency
   - Frequent UTI

6. weight gain.

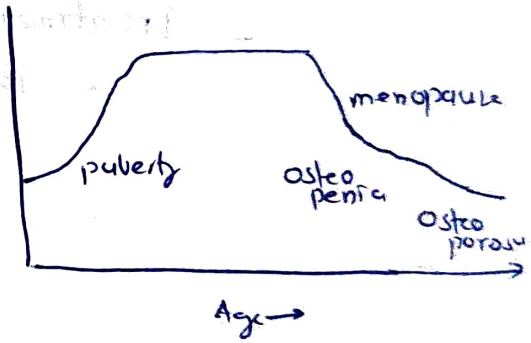
7. Osteoporosis and osteopenia.

→ Bone density lesed due to estrogen. It is a qualitative defect and not a quantitative defect.

→ loss of trabecular bone more than cortical bone.

Bone Mineral Density decrease at menopause

Risk factors:
- early menopause
- Family h/o menopause
- low Bone mineral density
- Thyrotoxicosis
- Alcohol
- Smoking
- hyper
- ↳ parathyroidism
- malabsorbtion



Diagnosis: Dexa scan
- Tscore : Normal - 2.5 to -1
  osteopenia - -1.0 to -2.5
  Osteoporosis - below -2.5

℞: calcium and vitamin D supplementation
Vit D - low risk - 600 IU/L
High risk - 800 IU/L.

Evaluation of post menopause | women

1. Blood workup
   - CBC
   - Blood sugar
   - lipid profile
   - FSH levels
   - serum Ca & vit D

Imaging → Pelvic Ultrasound
→ DEXA scan

Treatment

- Vitamin D & Ca supplementation.
- Hormone replacement therapy
- Raloxifene (SERM)
- Treatment of osteoporosis
  - Bisphonates, Alendronate
    ↓
    ↓ Bone resorption