

MENOPAUSE-



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INTRODUCTION:

- Menopause means permanent cessation of menstruation at the end of reproductive life due to loss of ovarian follicular activity.
- It is the point of time when last and final menstruation occurs.



- Climacteric: it is the period of time during which a women passes from the reproductive to the non-reproductive stage.
- This phase covers 5-10 years on either side of menopause.



- Perimenopause : it is the part of climacteric when the menstrual cycle is likely to be irregular.
- Post menopause : it is the phase of life that comes after the menopause.
- Age of menopause ranges between 45-55 years, average being 50 years.



PHYSIOLOGICAL CHANGES-

Hypothalamopituitary gonadal axis-

- The follicles become resistant to pituitary gonadotropins.
- Effective folliculogenesis is impaired with diminished estradiol production.
- Disturbed folliculogenesis may result in anovulation, oligo-ovulation, premature corpus luteum.



- Menstrual abnormality is there.
- The mean cycle length is significantly shorter.
- There is less estradiol production, no endometrial growth and absence of menstruation.



Oestrogen-

- Following menopause, the predominant oestrogen is oestrone and to lesser extent estradiol.
- Serum level of oestrone is higher than estradiol.



- Androgen
- After menopause, the stromal cells of ovary continue to produce androgen because of increase in LH.
- The main androgens are androstenedione and testosterone.



- Progesterone-
- A trace amount of progesterone detected in probably adrenal in origin.



Gonadotropins-

- Secretions of FSH and LH are increased due to absent negative feedback effect of estradiol and inhibin or due to enhance responsiveness of pituitary to GnRH.
- During menopause, there is fall in level of prolactin and inhibin.



ORGAN CHANGES-

- OVARIES-
- Ovaries shrink in size, become wrinkled and white.
- They lack primordial follicle, consequently lack of maturing follicles.





Fallopian tubes-

- Atrophy
- Muscle coat becomes thinner, the cilia disappear and the plicae become less prominent.

- The uterus-
- Becomes smaller and the ratio between body and cervix reverts to 1:1 ratio.
- The endometrium becomes thin and atrophic.
- Cervical secretion becomes scanty.





Vagina-

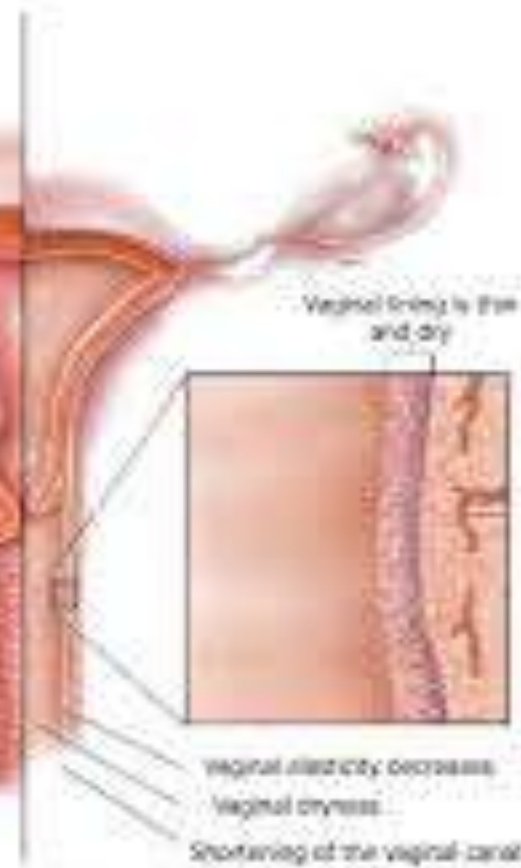
- Becomes narrower due to gradual loss of elasticity.
- The vaginal epithelium becomes thin
- The rauge progressively flatten.
- Dodertein's bacillus is absent.
- Vaginal ph. become alkaline.

VAGINAL ATROPHY-

Healthy Vagina



Vaginal Atrophy





- Vulva-
- Shows features of atrophy.
- Labia becomes flattened and pubic hair becomes scantier.
- The end result is narrow introitus.



- Breast fat is reabsorbed and glands atrophy.
- The nipples decrease in size.
- Ultimately the breast become flat and pendulous.



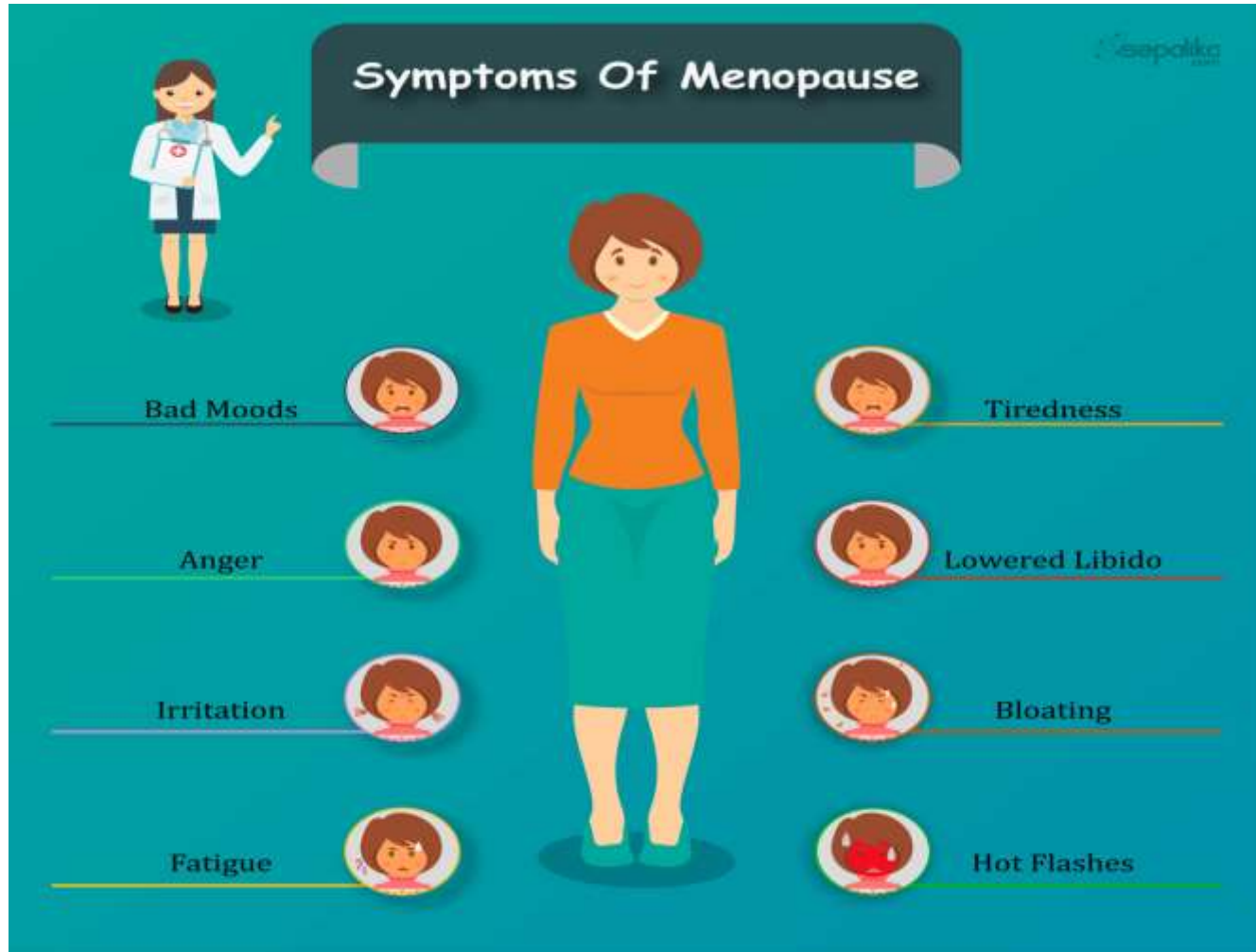
Bladder and urethra-

- Epithelium becomes thin and is more prone to damage and infection.
- There may be dysuria, frequency, urge or even stress incontinence.



- Loss of muscle tone to pelvic relaxation, uterine descent and anatomic changes in the urethra.
- The pelvic cellular tissues become scanty and the ligaments supporting the uterus and vagina lose their tone.

SYMPTOMS-



Symptoms Of Menopause

Bad Moods

Anger

Irritation

Fatigue

Tiredness

Lowered Libido

Bloating

Hot Flashes

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VASOMOTAR SYMPTOMS-

- Hot flush
- Palpitations
- Fatigue
- Weakness



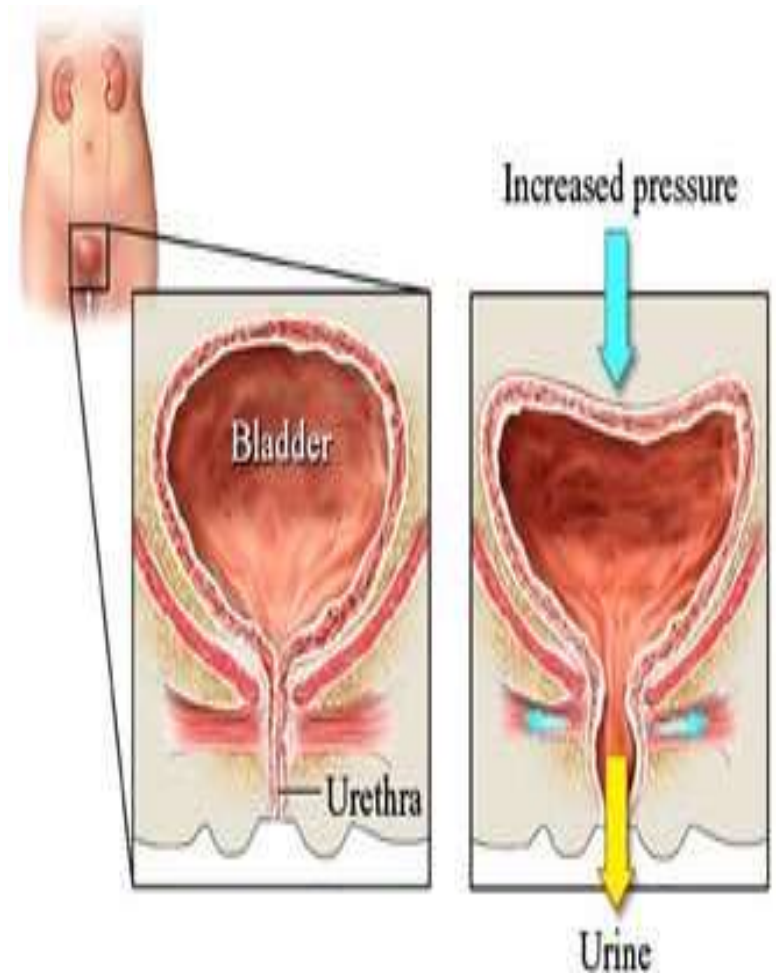
Genital symptoms—

- Urogenital atrophy
- Minimal trauma may cause vaginal bleeding
- Vaginal infections
- Dryness and pruritus
- leucorrhoea



Urinary symptoms-

- Dysuria
- Urinary urgency
- Recurrent UTI
- Stress incontinence



Sexual dysfunction-

- Decreased sexual desire because of estrogen deficiency and psychological changes such as anxiety and depression.



Skin and hair-

- Thinning, loss of elasticity and wrinkling of skin.
- Purse string
- Row feet
- Loss of pubic and axillary hair



Psychological changes-

- Increase frequency of anxiety
- Headache
- Insomnia
- Irritability, depression
- Dysphasia
- Mood swing
- Inability to concentrate



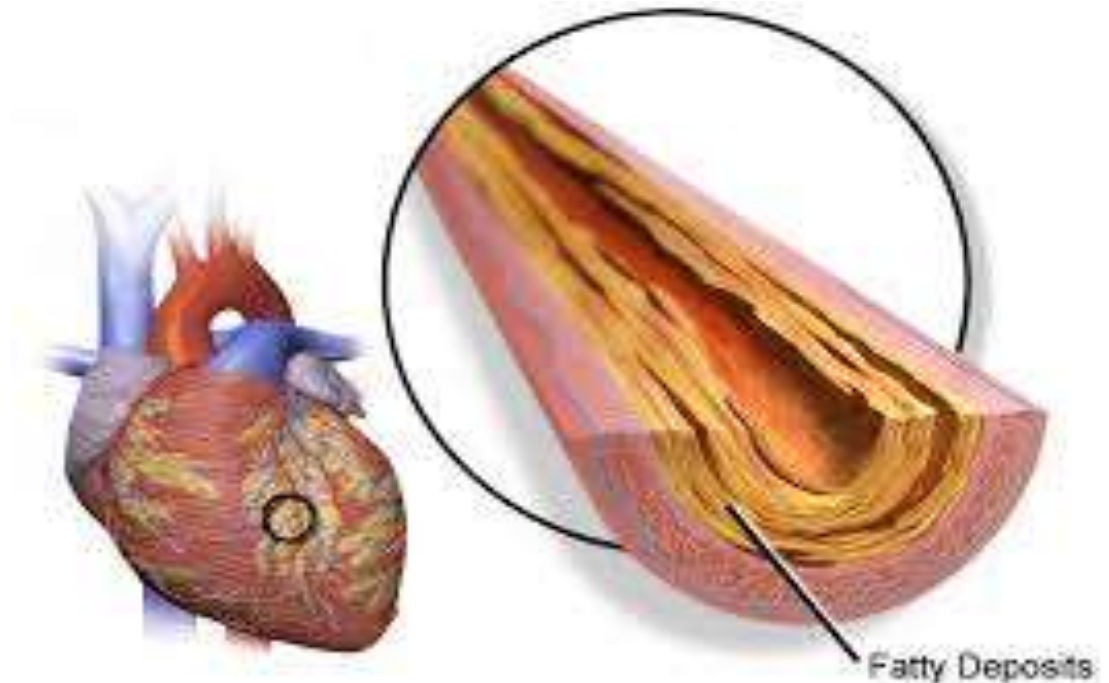
Osteoporosis and fracture-

- Osteoporosis may lead to back pain
- Loss of height
- Kyphosis
- Fracture may involve the vertebral body, femoral, neck



Cardiovascular and cerebrovascular effects-

- Ischemic heart disease
- Coronary artery disease
- strokes





DIAGNOSIS-

- Cessation of menstruation for consecutive 12 months during climacteric.
- Appearance of menopausal symptoms such as hot flush and night sweats.
- Vaginal cytology
- Serum estradiol level
- Serum FSH and LH level

TREATMENT-

- Non hormonal treatment-
- Life style modification
- Nutritious diet
- Exercise
- Vitamin D supplementation





Drugs-

- Bisphosphonate
- Fluoride- 1mg/kg
- Calcitonin
- Clonidine
- Thiazides
- Paroxetine
- Gabapentin



HORMONE REPLACEMENT THERAPY-

- HRT is indicated in menopausal women to overcome the short-term and long term consequences of estrogen deficiency.

Hormone Replacement Therapy and Menopause

Benefits

Relieves symptoms like:

- Hot flashes
- Mood swings
- Vaginal dryness
- Difficulty concentrating



Risks

Can increase the risk of:

- Strokes and blood clots
- Breast cancer
- Endometrial cancer
- Gallstones





INDICATIONS-

- Relief of menopausal symptoms
- Prevention of osteoporosis
- To maintain the quality of life in menopausal years.



Special group of women to whom HRT is prescribed.

- Premature ovarian failure
- Gonadal dysgenesis
- Surgical and radiation menopause



BENEFITS-

- Improvement of vasomotor symptoms
- Improvement of urogenital atrophy
- Increase in bone mineral density
- Decrease risk in vertebral and hip fractures.
- Reduction in colorectal cancer
- Possibly cardio protection.



PREPARATIONS OF HRT-

- Principle hormone used in HRT is estrogen.
- This is ideal in case of hysterectomy done.
- Women with intact uterus, only estrogen therapy leads to endometrial hyperplasia.
- Conjugated estrogen 0.625-1.25 mg/day is used.



PROGESTINE-

- Medroxyprogesterone acetate 2.5 -5 mg/day.
- Micronized progesterone 100-300 mg/day
- Dydrogesterone 5-10 mg/day





ORAL ESTROGEN REGIME-

- Conjugated equine estrogen 0.3 mg or 0.625 mg, daily for women who had hysterectomy.
- Estrogen and cyclic progestin-
 - Estrogen is continuously 25 days and progestin is added for last 12-14 days.



SUBDERMAL IMPLANTS-

- 17 beta estradiol implants 25 mg, 50 mg or 100 mg for 6 months.





PERCUTANEOUS ESTROGEN GEL

- 1 gm. of applicator gel, daily is to be applied on skin over anterior abdominal wall or thighs.



TRANSDERMAL PATCH-

- It contains 3.2 mg of 17 beta estradiol, releasing about 50 ug of estradiol in 24 hrs.





- Vaginal creams-
 - ❑ Vaginal estrogen cream 1.25 mg daily
- Progestin-
 - ❑ Medroxy progesterone acetate 2.5-5 mg/day.
- LNG-IUS (levonorgestrel intrauterine system)
- Tibolone 2.5 mg/day



LNG-IUS





DURATION OF HRT-

- Use of HRT for short period of 3-5 yrs.
- Reduction of doses should be done as soon as possible.



RISKS OF HRT-

- Endometrial cancer
- Breast cancer
- Venous thromboembolic disease
- Coronary heart disease
- Hypertension
- Lipid metabolism
- Alzheimer disease and dementia



VENOUS THROMBOEMBOLIC DISEASE-





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