Postmenopausal reproductive health

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The recent statistics revealed that the female population is projected to increase, and the vast majority of this increase is accounted for by the over 50 year age group. This means that the population of women who are likely to experience problems during their postreproductive years will expand.
How women are affected by the menopause?

- The hormonal changes during and after the menopause have radical changes on the woman.
- There is a variability between women in:
  1) The timing of when each system is affected
  2) The degree of how the changes influence each woman

The cause of these variability is unknown, some evidence that genetic influences play a part.

**While most effects of the menopause have long-term implications, the effects of menopause are commonly categorized as having an early onset or an onset in the medium to long term.**
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<td>Psychological symptoms (e.g. labile mood, anxiety, tearfulness)</td>
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<td>Loss of concentration, poor memory</td>
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<td>Intermediate (3–10 years)</td>
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Central nervous system

1) Vasomotor symptoms:
   - The colloquial term applied to vasomotor symptoms is ‘hot flush’, and when a hot flush occurs at night it is termed ‘night sweat’.
   - The exact aetiology of a vasomotor symptom is unknown but is thought to be loss of the modulating effect of oestrogen on serotonergic receptors within the thermoregulatory centre in the brain, resulting in exaggerated peripheral vasodilatory responses to minor atmospheric changes in temperature.
   - Hot flushes occur in up to 80% of women.
   - The most distressing effect of vasomotor symptoms is through the occurrence of night sweats. The woman may be asleep at the time of the sweat, but during the episode she can be fully woken or her level of sleep can be converted from deep rapid eye movement (REM) sleep to a shallower sleep that is less refreshing.
   - Additional triggers include alcohol, caffeine and smoking. Women with a high body mass index (BMI) tend to get worse vasomotor symptoms.
2) Psychological symptoms:

- menopause is associated with **low mood**, **irritability**, **lack of energy**, **tiredness** and **impaired quality of life** from the early perimenopausal period.

3) Cognitive function:

At present there is **no clear evidence** that menopause is associated with an acceleration of the onset or incidence of dementia.
The genital tract

1) Endometrial effects:
- The initial irregular or scanty vaginal bleeding is due to the reduction in oestrogenic endometrial stimulation with failing ovarian function, ultimately resulting in periods completely stopping when the endometrium is no longer stimulated.
- Episodic and infrequent ovulation with fluctuations in oestrogen levels leads to unpredictable progestogenic levels, which usually has the effect of inadequate regular endometrial shedding. This can then lead to some women experiencing irregular heavy bleeding.
2) The urogenital tract and vulvovaginal atrophy:

- Once oestrogen levels start to fall in the perimenopausal years, many women, particularly those who are sexually active, may become aware of vaginal dryness, irritation, burning, soreness and dyspareunia.

- Loss of the oestrogenic support to the vaginal epithelium leads to reduced cellular turnover and reduced glandular activity, leading to a vaginal epithelium that is less elastic and more easily traumatized.

- Other conditions that frequently worsen during the menopause, including incontinence and prolapse.

- The inherent resistance of the urogenital system to infection is also impaired, considered to be due to an increase in pH of the normally mildly acidic environment within the vagina.

** Examination of women with postmenopausal urogenital atrophy normally demonstrates:

Dryness, pallor and, in extreme cases, small petechial haemorrhages.

Older women may also have shrinkage and fusion of the labia along with narrowing of the vaginal introitus.
Bone health

- There will be loss of the oestrogenic support of skeletal metabolism.
- The balance of the rates of resorption vs. deposition is affected by many different factors, one of which is oestrogen.
- Bone density naturally increases during childhood, reaching a peak between 20 and 30 years of age. Males generally achieve a greater peak bone density in comparison to females.
- After peak bone mass attainment in women there is a steady decline until the menopause, then an accelerated phase of bone loss until 60 years, followed by further steady decline until death.
- Osteoporosis more frequent in women than men with an approximate ratio of 4:1.
Risk factors for osteoporosis

- Family history of osteoporosis or hip fracture.
- Smoking.
- Alcoholism.
- Long-term steroid use.
- POI and hypogonadism.
- Medical treatment of gynaecological conditions with induced menopause.
- Disorders of thyroid and parathyroid metabolism.
- Immobility.
- Disorders of gut absorption, malnutrition, liver disease.
Cardiovascular system

Approximately 30% of all deaths occur as a result of ischaemic heart disease and stroke.

- There are several changes in the female physiology that can influence individual risk of CVD:

1) **lifestyle issues** such as nutrition and exercise,

2) **changes in the distribution in fat** from a more **gynaecoid** (fat on breasts and hips) to **android** (abdominal fat deposition)

3) **changes in serum lipid levels** that include **increases** in triglycerides, total cholesterol and low-density lipoprotein (LDL) cholesterol

4) **reduction** in high-density lipoprotein (HDL) cholesterol.

- Oestrogen also has a supportive effect on the vessel wall that favours **vasodilatation** and **prevents atherogenesis**