Hormonal therapy in menopause

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HRT has been the mainstay of the treatment of menopausal symptoms for decades.

Not all cases require HRT, up to 85% of cases could show improvement with non-hormonal therapy only.
Beneficial effects of HRT

(1) Vasomotor system: this is the principal reason for taking HRT, more than 90% of women show a significant improvement within 6 weeks, with reductions in frequency and severity of hot flushes and night sweats as well as improvements in sleep and daytime energy levels.

(2) The skeleton: most postmenopausal women should consider HRT due to its protective effect in preventing bone loss and osteoporotic fractures of the hip and spine.

(3) The lower genital tract: there is a strong evidence that HRT administration improves vulvo-vaginal dryness, soreness, and dyspareunia.

(4) CVS: HRT is associated with a reduction in IHD and overall mortality.
Types of HRT

(1) **Estrogen**: estradiol, estrone sulphate, estriol, and conjugated equine estrogen.

(2) **Progesterone**: levonorgestrel, dydrogesterone, norethisterone, micronized progesterone

(3) **Estrogen with progesterone**

(4) **Testosterone**
**Estrogen**

It’s used for both: short-term and long-term therapies

(1) Short-term therapy: to relieve symptoms like hot flushes, palpitation, night sweats

(2) Long-term therapy: for delaying osteoporosis and reducing the risk of IHD

Estrogen alone is only used for women who no longer have uterus, due to the risk of endometrial hyperplasia and cancer if it’s used without progesterone

**Side effects**: breast tenderness, nausea, leg cramps, and headache.
Progesterone

In addition to preventing endometrial hyperplasia and cancer (if estrogen is used alone), it reduces the risk of breast cancer, and increases bone mineral density.

**Side effects**: fluid retention, acne, mood swings, and depression
(1) During the perimenopause or early postmenopausal years: given cyclically in preparations over 28-days cycle of which 16-18 will provide estrogen alone, and 10-12 days will provide estrogen and progesterone.

(2) Postmenopausal or over the age of 54 years: they should be given continuously, preparations of the same estrogen dose with a smaller dose of progesterone given daily.
Testosterone

Usually used in women with disorders of sexual desire and energy levels who failed to respond to normal HRT
# Routes of administration

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Oral</th>
<th>Trans-dermal (Gel or patches)</th>
<th>Subcutaneous implants (estradiol)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Cheap</td>
<td>Goes directly to the circulation (no first pass metabolism) No risk of thromboembolism or HTN</td>
<td>A six-monthly insertion of pure estradiol = high concentration Better response in severe osteoporosis</td>
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<td>Easy to take</td>
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</table>

<table>
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<tr>
<th>Disadvantages</th>
<th>Oral</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Interferes with lipid metabolism and coagulation due to its effect on the liver (first pass metabolism)</td>
<td>Expensive</td>
<td>Needs surgical procedure</td>
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<td>Not well tolerated in cold areas</td>
<td>Variable absorption</td>
<td>Difficult to remove</td>
<td></td>
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<tr>
<td>Absorption cannot be controlled</td>
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Contraindications

**Absolute:**
- Suspected pregnancy
- Breast cancer
- Endometrial cancer
- Acute liver disease
- Known current VTE

**Relative:**
- Uninvestigated abnormal bleeding
- Past history of benign breast disease
- Chronic stable liver disease
- Large uterine fibroids
- Unconfirmed personal history or a strong family history of VTE
Risks associated with HRT

(1) Cancer

Breast cancer is the one who attracts most concerns, the risk in the 50-59 years age group is 22.5 per 1000 women for 7.5 years use of HRT, but it's important to be aware that recent data suggest that HRT may promote the growth of pre-existing malignant cells rather than initiate tumors.

Endometrial cancer risk is reduced with the use of progesterone as a part of HRT.

Incidence of Ovarian cancer has not been shown to increase with HRT.
Cont’d.

(2) CVS disease and stroke:
The risk increases with age

(3) Venous thromboembolism:
HRT doubles the incidence of VTE in women over 50 years

But remember, because it has no effects on lipid metabolism or liver function, *transdermal* HRT may not have such a great effect on VTE incidence.
HRT and Weight gain

Average body weight increases by 1 kg per year after menopause along with a more android fat distribution, what contributes to a greater sensation of being overweight.

Women who start HRT early in menopause erroneously blame this weight gain on HRT, so they should be informed that there’s no evidence on the association between HRT and weight gain.
Thank you 😊