DRUG REVIEW

Androgen Therapy in Menopause

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Menopause is characterized by an array of changes to the female body caused by modulations in the production of estrogens and androgens. The ovaries are important sites of testosterone production in the peri- and postmenopausal women, but the contribution of testosterone pro-hormones from the adrenal glands falls precipitously to the extent where the ovaries cannot correct the deficit. This results in a net decline in circulating testosterone levels. The cessation of follicular functioning results in a steep decline in the production of estrogens. This modulation is responsible for the physical manifestations of the menopause-hot flushes, sleep disturbances, mood changes, bleeding problems, local urogenital problems, vaginal changes, etc. Although the most obvious and well-known effects of the menopause are due to the decline of estrogen levels, the effects of falling testosterone levels are subtle, but by no means less significant. Reductions in sexual motivation, sexual arousal, vaginal lubrication, etc. are all associated with plummeting androgen levels(1).

Candidates For Androgen Therapy

Postmenopausal women with decreased sexual desire associated with personal distress and with no other identifiable cause may be candidates for testosterone therapy. Oophorectomised postmenopausal women, who continue to suffer from decreased libido or reduced energy level despite full dose ERT (Estrogen Replacement Therapy), women who have not experienced relief of vasomotor symptoms despite maximally tolerated estrogen dose are probable candidates for androgen therapy. Recently it is being suggested that the development of cardiovascular disease after menopause is not only due to estrogen decline but also because of androgen decline. More studies however, are needed to evaluate role of androgen replacement therapy in CVS in postmenopausal women specially with low levels of this hormone. On the contrary, some of the researchers say that high-dose testosterone therapy may adversely affect atherosclerosis in postmenopausal women (2,3).

In controlled clinical trials of up to 2 year duration of testosterone therapy, women receiving androgen therapy tolerated androgen administration well and demonstrated no serious side effects(4).

The 300-microg/d testosterone patch increases sexual desire and frequency of satisfying sexual activity and is well tolerated in women who develop hypoactive sexual desire disorder after surgical menopause(5).

Positive effects of androgen replacement
- Increased libido, mood elevation, sense of well being
- Decreased breast tenderness induced by HRT
- Additive effect on ERT induced BMD increments, especially in spine

Negative effects of androgen replacement
- Liver Toxicity
- Virulizing effects
- Reversal of positive effect of ERT on lipids (HDL)

Contraindications
- CVS or Cerebrovsacular disorders
- Severe Liver Disease
- Estrogen Dependent tumor
- Endometrial hyperplasia
- Porphyria
- Hyperlipoproteinaemia
- Undiagnosed vaginal bleeding

Guidelines to use Androgen (6,7)

• Testosterone without Estrogen Therapy (ET) cannot be recommended because of a lack of evidence

• One must rule out causes not related to testosterone

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levels (eg, physical and psychosocial factors, medications) and to ensure that there is a physiologic cause for reduced testosterone levels (eg, bilateral oophorectomy)

• Monitoring should also include subjective assessments of sexual response, desire, & satisfaction and adverse effects

• Transdermal patches and topical gels or creams should be preferred over oral products

• It should be administered at the lowest dose for the shortest time that meets treatment goals.

• Counseling regarding the potential risks and benefits should be provided before initiating therapy.

Treatment with the combination (8-10)

• Estrogens and methyltestosterone significantly increases scores measuring sexual interest or desire and frequency of desire greater than those achieved with esterified estrogens alone

• Estrogen with or without testosterone may improve general well-being in some groups of menopausal women (surgical) beside sexual benefits.

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