

Testosterone Improves Sexual Function in Postmenopausal Women

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Hypoactive sexual desire disorder is a common finding among postmenopausal women. Several studies showed significant libido raise after using transdermal patch delivering 300 μg of testosterone per day in women with a concomitant estrogen replacement therapy. The efficacy and safety of this method were documented only for the short-term period, as the long-term use proved to be associated with risks and is neither recommended nor used. However, data concerning testosterone treatment in postmenopausal women without any other hormone replacement therapy are lacking.

Thus, a new trial appeared- a double-blind, randomized, placebo-controlled study- A Phase III Research Study of Female Sexual Dysfunction in Women on Testosterone Patch without Estrogen (APHRODITE). 65 centers in the USA, Canada, Australia, UK and Sweden enrolled women with surgically induced menopause (for at least 12 months, 20-70 years of age) and natural induced menopause (for at least 2 years, 40-70 years of age). Women over 40 years old had to have a normal screening mammogram for both breasts within the last 12 months. Other inclusion criteria available for all the women

were: normal Papanicolaou test within the last 2 months, no evidence of endometrial cancer, a binding globulin above 12 nmol/l and a stable, monogamous relationship with a sexually active partner for at least 1 year before the study entry. The exclusion criteria were: the use of estrogen or estrogen plus progestin or testosterone during the last 3 months, psychiatric disorder, dyspareunia, breast or gynecologic cancer, physical limitations, medication that was likely to interfere with the sexual function.

814 postmenopausal women with a low libido were randomized to 150 μg or 300 μg of testosterone daily or placebo. Efficacy was assessed at week 24, using three questionnaires during the study: weekly Sexual Activity Log, the Profile of Female Sexual Function and the Personal Distress Scale. Throughout the study, adverse events assessments and hormone measurements were also available.

The results at week 24, assessed as the increase in the 4-week frequency of satisfying sexual episodes, were in favor of the higher dose of testosterone: 2.1 episodes vs. 0.7, $p < 0.001$. There was significant increase in desire and decrease in distress associated with both doses of testosterone when compared to placebo (300 μg per day, $P < 0.001$; 150 μg per day, $P = 0.04$, respectively 300 μg per day,

P<0.001; 150 µg per day, P=0.04). The most common adverse events that lead to withdrawal were skin reaction at the site where the patch was placed and androgenic effects (hair-growth), especially in the 300 µg testosterone group (30.0% vs. 23.1% in the placebo group). Most of the adverse reactions were mild. Breast cancer was diagnosed in 4 women who received

testosterone, one of her having symptoms before randomization.

In conclusion, 300 µg of testosterone daily in postmenopausal women not receiving estrogen therapy significantly improves their sexual function. However, the long-term effects of testosterone intake is not yet entirely revealed.



Comment on the paper:

Davis SR, Moreau M, Kroll R, et al for the APHRODITE Study Team – Testosterone for Low Libido in Postmenopausal Women Not Taking Estrogen. *N Engl J Med* 2008 November 6; 359: 2005-2017