



## MENOPAUSE. STEROIDOPENIA-RELATED HYPERCHOLESTEROLEMIA.

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In 2002 we suggested a new hypothesis of hypercholesterolemia that implies that hypercholesterolemia is the reactive consequence of enzyme-dependent down regulation of steroid hormones biosynthesis and their interconversion. There are very few publications regarding the association of steroidopenia and hypercholesterolemia.

The goal of our presentation is to determine if the correction of steroidopenia with hormonorestorative therapy (HT) to youthful levels will normalize total cholesterol (TC) levels.

We analyzed our two retrospective studies that included 109 menopausal women with high cholesterol (78 and 31 patients), where we used hormonorestorative therapy as a basic element of treatment. Laboratory workup included lipid profile, serum pregnenolone, dehydroepiandrosterone sulfate, total estrogen, progesterone, cortisol, total testosterone, and vitamin D-3 levels at presentation with follow up ranging from 3 to 9 months. HT therapy included a combination of several agents such as pregnenolone, dehydroepiandrosterone (DHEA), triestrogen, progesterone, testosterone, hydrocortisone, and vitamin D-3.

Cholesterol levels decreased in all 109 patients treated with HT. Mean serum TC dropped by 22.2% (from 246.1 mg/dL before to 191.6 mg/dL after treatment) in the first study group (78 patients). Mean age 54.2. Serum TC completely normalized in 63.4%. 36.6% of patients still have a minimal elevation of serum TC due to an incomplete optimization of steroid hormone levels.

In the second study, in women, mean age 57.0, HT statistically significantly lowered mean TC from 229.2 mg/dL to 186.3 mg/dL (18.7%) ( $p < 0.05$ ). These results were associated with statistically significant elevations in pregnenolone, DHEA Sulfate, testosterone, progesterone but not total estrogen, cortisol, or vitamin D-3 changes in both men and women. During the follow up no patients exhibited adverse complications related to HT and most described marked global quality of life improvement. The acute morbidity of HT was zero.

We concluded that correction of steroidopenia with the use of hormonorestorative therapy is an effective strategy for normalizing and maintaining cholesterol homeostasis in menopausal women. HT can significantly decrease the level of TC without any side effects and can be recommended for clinical use.

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