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Oral estrogen improves serum lipids, homocysteine and fibrinolysis in elderly men.

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The effects of estrogen on cardiovascular risk factors have been less well defined in men than in women. We measured lipid and lipoprotein concentrations, lipoprotein particle size distributions, lipoprotein (a), homocysteine, and markers of thrombosis and fibrinolysis in 18 [corrected] healthy elderly men (age 74 +/- 3 years, mean +/- S.D.) before and after 9 weeks of treatment with 0.5, 1 or 2 mg/day of oral micronized 17beta-estradiol. LDL-C (-6%), apo B (-9%), triglyceride (-5%), and homocysteine (-11%) concentrations decreased with estradiol, whereas HDL-C (+14%) increased. Intermediate-size VLDL subclass concentrations were lowered and LDL and HDL subclass levels altered in such a way as to cause average LDL and HDL particle size to increase. Lipoprotein (a) did not change. Fibrinogen (-13%) and plasminogen activator inhibitor-1 (PAI-1) concentrations (-26%) decreased, but there were no changes in thrombotic markers including thrombin-antithrombin III complex, prothrombin fragment 1.2, D-dimer, antithrombin activity, protein-C and S and von Willebrand factor antigen. Breast tenderness occurred in four men and heartburn in five but did not require discontinuation of treatment. We conclude that oral estrogen in men reduces homocysteine, fibrinogen, and PAI-1 concentrations and favorably influences VLDL, LDL and HDL subclass levels without increasing markers of thrombotic risk.

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