106. Testosterone and Blood Clots

Last Updated: 3/14/2007

Q: "I am 54 years old and had an unexplained leg DVT (deep vein thrombosis) 4 years ago. I was treated with warfarin for 6 months and I have done fine since then. Because of a decrease in libido I was recently tested and found to have low testosterone levels in my blood. Is it safe for me to take testosterone or does it increase my risk for another blood clot?"

A: Physiological testosterone replacement therapy does not appear to increase the risk for blood clots.

1. Physiological (low dose) testosterone replacement Physiological testosterone replacement does not adversely affect blood coagulation status (reference 1) and does not appear to lead to an increased risk of venous or arterial thrombosis. Thrombosis is not listed as a potential side effect in drug compendiums on and package inserts of testosterone. Furthermore, a 2006 "Clinical Practice Guideline" (ref. 2) also does not list thrombosis as a side effect of testosterone replacement therapy, or a previous history of thrombosis as a reason to not give testosterone replacement therapy.
2. Anabolic steroids in athletes Anabolic steroids are chemical variants of testosterone. They are taken in various doses, typically by athletes, to enhance muscle mass and physical performance. Several cardiovascular complications have been reported to occur in people using anabolic steroids, including high blood pressure, stroke, heart attacks (myocardial infarction), and pulmonary embolism (reference 1). It is impossible to get a real sense of how frequent these complications occur, as it is difficult to find athletes for cardiovascular investigations who admit that they have taken anabolic steroids. Anabolic steroids taken long-term may increase the risk for arteriosclerosis (= hardening of the arteries), because they change the metabolism of blood lipids: the bad chlolesterol LDL increases and the good cholesterol HDL decreases (ref. 3). Anabolic steroids may also lead to increased blood clot formation, even when taken only short-term, because they (a) increase the level of clotting factors (= pro-coagulant factors), (b) decrease levels of the blood clot-dissolving proteins (= fibrinolytic proteins) that we all have, and (c) make blood platelets more sticky (= lead to increased platelet aggregation) (ref. 4).

References:

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