

Testosterone: The Truth Shall Set The Wimps Free

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Betel Nuts and Testosterone

Arecoline is one of the major components of betel nuts, which have been consumed as chewing gum in Southeast Asia. In fact, some folks chew these nuts because of the mild stimulant effect. But there is something even more intriguing about arecoline, an active component of betel nuts. And that is its effect on testosterone. In this recent study, the effects of arecoline on testosterone (T) secretion were studied in male rats that were injected with human chorionic gonadotropin (hCG, 5 IU/kg) or arecoline (1 microg/kg) plus hCG. They discovered that one intravenous injection of arecoline resulted in an increase of the hCG-induced level of plasma T. Also, administration of arecoline in-vitro (i.e., in test tube conditions) increased T production in Leydig cells (these are the T-producing cells in the testicles). The stimulatory effect of arecoline on T release in-vitro was enhanced by hCG and forskolin! Thus, arecoline stimulates testosterone production by acting directly on the testes.¹ Maybe you should go buy some betel nuts and chew on 'em. This might be an additional way to get a rise in T.

Dose-Dependent Increases

This was a testosterone dose-response study in young and older men who received long-acting GnRH agonist monthly (to turn off normal production of testosterone), plus one of five-weekly doses of testosterone enanthate (25, 50, 125, 300, or 600mg intramuscularly) for 20 weeks. Both hemoglobin and hematocrit increased significantly in a linear, dose-dependent fashion in both young and older men in response to graded doses of testosterone. But get this; the increases in hemoglobin and hematocrit were significantly greater in older than young men.² From this, it may be better for older men to be administered testosterone because of the improved blood cell count. But in addition to EPO, we know why endurance cyclists love their androgens.

Testosterone Ointment and Patches

Not to be confused with Vick's VapoRub, this study looked at the serum total testosterone (TT) and free testosterone (FT) levels after application of a testosterone ointment (Glowmin, Daito Pharmaceutical Co. Ltd., Tokyo, Japan) and its clinical efficacy. Accordingly, Glowmin, is a short-acting testosterone ointment eliciting physiological elevation of both total and free testosterone!³ This sounds better than rubbing KY Jelly. I can see the commercials now. Glowmin. Rub it on now, and rub it on it later. And in a similar study, 60 men were given transdermal testosterone patches or placebo for 52 weeks. Testosterone therapy, relative to placebo, selectively lessened visceral fat accumulation without change in total body fat mass and increased total body fat-free mass or lean body mass and total body and thigh skeletal muscle mass.⁴ So here's an example where giving T can actually lessen cardiovascular disease risk by a drop in visceral fat. And to top it off, you can get lean body mass as well!

No Sissies Allowed

Guys with more testosterone are the alpha-males, correct? In this interesting psycho/biological study, scientists suggested a link between social anxiety and social dominance. Scientists thus tested the ideal socially anxious individuals (i.e., Woody Allen, Michael Moore, etc.) who would respond to a social-dominance threat by exhibiting decrements in their testosterone levels. A drop in T is an endocrinological change that typically reflects pronounced social submission in humans and other animals. In this study, participants were randomly assigned to either win or lose a rigged face-to-face competition with a confederate. Although no zero-order relationship between social anxiety and level of testosterone was observed, testosterone levels showed a pronounced drop among socially anxious men who lost the competition. What a bunch a wimps! No significant changes were observed in non-anxious men or in women. According to the investigators, "This research provides novel insight into the nature and consequences of social anxiety and also illustrates the utility of integrating social psychological theory with endocrinological approaches to psychological science." Or in other words, don't hang around those who are exhibiting high anxiety, because they are high on the wimp scale.

In another psycho/biological study, men with more a masculine facial structures show higher levels of circulating testosterone than men with less masculine faces. Thus, we have scientific proof that shows that a man's facial structure may afford important information about the functioning of his endocrine system.⁶ Perhaps that explains the differences in masculinity between Arnold, the Governor of California, and Barney Frank.

High TE For Better Results

We of course know that higher testosterone levels confer social dominance, a more masculine face and better results on the bench press. So why the negative spin that so permeates the mainstream press on testosterone? One would think that testosterone were like cyanide. Don't touch the stuff, "cause it'll kill you! Of course, we know most journalists have the IQ somewhere between a betel nut and skunk. Despite the growing body of evidence that testosterone, when used properly, can confer beneficial effects, the fix is in. The mainstream press, will not in our lifetime, ever admit to such. Heck, who cares about the facts when it gets in the way of your conclusions. Even older men who are administered testosterone show improvements in various parameters. In what might call a fairly long-term study (as far as androgens go), monthly treatment with a gonadotropin-releasing hormone agonist plus 25, 50, 125, or 300mg/week of intramuscular injections of testosterone enanthate for 20 weeks was analyzed. Did anything bad happen? I mean come on. Someone must have died, right? Inquiring minds want to know. Here's what they found; there was a significant testosterone dose- and concentration-dependent increase in skeletal muscle mass, as well as maximal strength. Leg power also increased dose-dependently. So what we have here is proof that testosterone administration increases strength and muscle mass even in older men.⁷ No deaths, no crazy side effects. Go figure. The truth shall set you free!

References:

1. Wang SW, Hwang GS, Chen TJ, Wang PS. Effects of arecoline on testosterone release in rats. *Am J Physiol Endocrinol Metab*, Aug 2008;295(2):E497-504.

2. Coviello

AD, Kaplan B, Lakshman KM, Chen T, Singh AB, Bhasin S. Effects of graded doses of testosterone on erythropoiesis in healthy young and older men. *J Clin Endocrinol Metab*, Mar 2008;93(3):914-919.

3. Amano

T, Imao T, Takemae K, et al. Profile of serum testosterone levels after application of testosterone ointment (glowmin) and its clinical efficacy in late-onset hypogonadism patients. *J Sex Med*, Jul 2008;5(7):1727-1736.

4. Allan

CA, Strauss BJ, Burger HG, Forbes EA, McLachlan RI. Testosterone therapy prevents gain in visceral adipose tissue and loss of skeletal muscle in nonobese aging men. *J Clin Endocrinol Metab*, Jan 2008;93(1):139-146.

5. Maner

JK, Miller SL, Schmidt NB, Eckel LA. Submitting to defeat: social anxiety, dominance threat, and decrements in testosterone. *Psychol Sci*, Aug 2008;19(8):764-768.

6. Pound

N, Penton-Voak IS, Surridge AK. Testosterone responses to competition in men are related to facial masculinity. *Proc Biol Sci*, Sep 16 2008.

7. Storer

TW, Woodhouse L, Magliano L, et al. Changes in Muscle Mass, Muscle Strength, and Power but Not Physical Function Are Related to Testosterone Dose in Healthy Older Men. *J Am Geriatr Soc*, Sep 15 2008.