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Medical Image

Mechanisms of testosterone action

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ABSTRACT

Testosterone acts either directly on the androgen receptor, or acts in tissues that express the enzyme 5-alpha reductase, via conversion to Dihydrotestosterone (DHT), or acts on estrogen receptor, following conversion by aromatase to estradiol. T needs conversion to DHT for its action on the external genitalia (which includes the prostate gland) and sexual hair and requires conversion to estradiol for much of its action on the bone (Figure 1). Therefore, in hypogonadal males, both androgen and estrogen levels are reduced. Androgen deficiency accounts for decreases in lean mass, muscle size, and strength whereas estrogen deficiency accounts for increases in body fat and both contribute to the decline in sexual function [1-7].

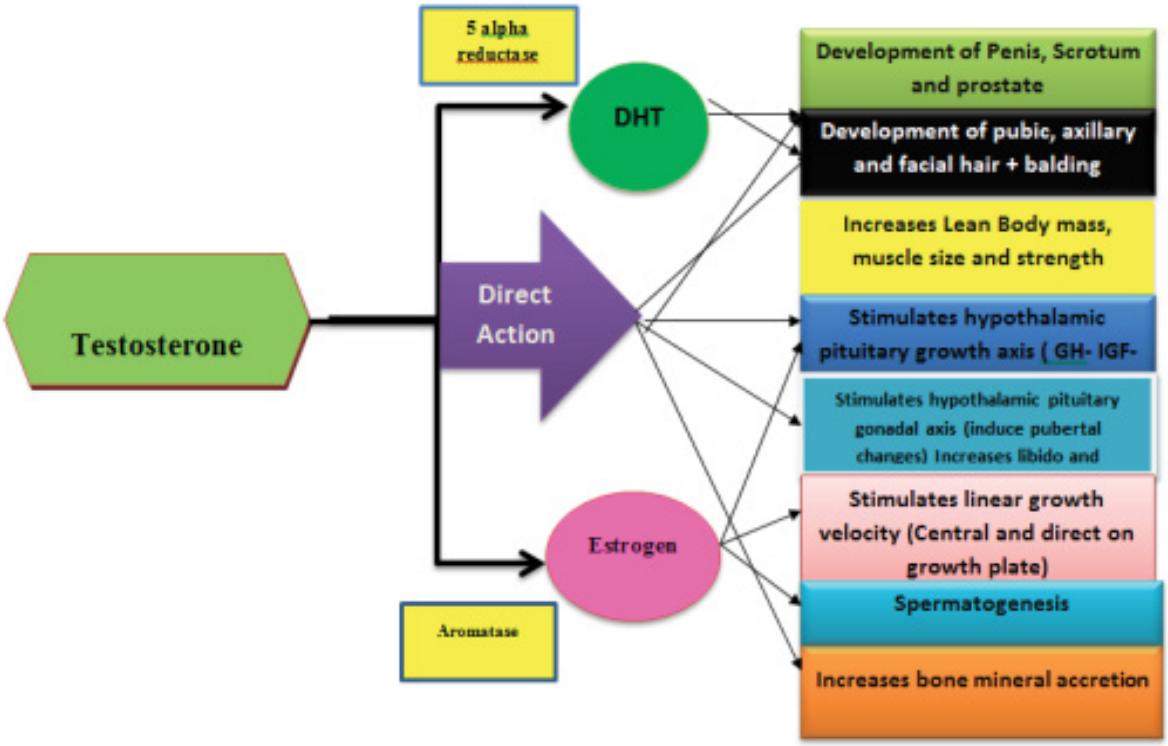

Figure 1: Differents effects of testosterone on body organs.

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