key points

SELECTED BY

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Androgens play a crucial role in bone, muscle and fat metabolism, erythropoiesis and cognitive health. In men aged 40-79 years the incidence of biochemical deficiency and symptomatic hypogonadism is 2.1-5.7%. Decreased libido or reduced frequency and quality of erections, fatigue, irritability, infertility or a diminished feeling of wellbeing may be presenting complaints. However, a significant proportion of men with androgen deficiency will be identified when they present for unrelated concerns.

Important factors to elicit from the history in addition to the presenting complaint include: a history of obesity, type 2 diabetes, systemic diseases or metabolic syndrome which all impact on testosterone physiology. A comprehensive medical review will identify agents which can cause low testosterone levels such as statins, steroids, opioids, dopamine antagonists and 5-alpha reductase inhibitors. Alcohol, anabolic steroids and illicit substance use such as marihuana can impact on testosterone levels and non-prescribed drug use should be routinely discussed.

Causes of primary hypogonadism (primary testicular failure) include Klinefelter syndrome (47,XXY karyotype, affecting 0.2% of males) and mumps. In secondary hypogonadism the functional failure originates in the hypothalamus or pituitary gland. Causes include prolactinoma (pituitary adenoma), congenital hypogonadotrophic hypogonadism, and Kallmann's syndrome. Secondary hypogonadism is the most common cause of delayed puberty. Men with primary or secondary hypogonadism, delayed puberty, hypopituitarism or infertility associated with androgen deficiency should be referred to secondary care for review.

The mainstay of treatment in persisting androgen deficiency is to restore normal physiological levels of testosterone by using exogenous testosterone. It may take at least three to six weeks to notice any clinical improvement in symptoms. Men receiving testosterone supplementation should be followed closely and have their testosterone, haematocrit and PSA levels checked at three, six and twelve months after initiation of testosterone replacement therapy. Men should then be reviewed at least annually thereafter.