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Andropause

The Male Menopause

This condition is gaining more acceptance in the community although it remains controversial in medical circles. It occurs in the late 40s or 50s age group and gives rise to a number of symptoms leading to a loss of vitality and interest in life. It is caused by low testosterone levels and some men derive enormous benefit from hormone replacement restoring their zest for life.

Testosterone levels are similar in boys and girls until puberty, when in the male levels increase to a maximum between 30-40 years, and then decrease with age. Testosterone (a fat) is bound to a protein called sex hormone binding globulin (SHBG) making it water soluble and hence transportable in blood; this protein increases with age. As a result the relative amount of free testosterone decreases, (an excess of SHBG acting as a sponge to soak up free testosterone), making less available to the tissues.

Investigation should include Testosterone and SHBG levels, (the ratio being the Free Androgen Index or FAI) as well as general screening for pituitary and other related pathologies. Ranges of FAI vary between laboratories, but are usually considered normal between 70 and 100%, and borderline between 50 and 70%. Other indices may be used to determine androgen status, which include free testosterone (salivary or blood). Testosterone levels fluctuate throughout the day, being higher in the morning than in the afternoon. This diurnal variation is similar to other hormones, including cortisol. It is therefore sensible to estimate blood levels both in the morning and afternoon to get peak and trough levels. Levels also vary seasonally being higher in spring and summer and lower in winter, and may be lower temporarily in periods of low sexual activity, fatherhood and even falling in love.

An accelerated drop in testosterone levels occurs in the andropause causing symptoms which usually start around 50 years and include fatigue, irritability, depression, sweats, hot flushes, aches and pains, loss of libido and erectile dysfunction. These symptoms vary, but generally both systemic and sexual symptoms co-exist. The condition may be caused by high stress levels, a history of undescended testis, adult mumps, testicular injury or infection, vasectomy, alcohol abuse, zinc deficiency, ingestion of antiandrogens (including oestrogenic foods, spearmint tea and liquorice).

There is a distinct difference between the male menopause and midlife crisis. The former is associated with loss of energy and drive, and loss of erectile capability. The latter however is not associated with loss of energy, but rather a desire to change one's life and often an increased sexual drive.

Erectile dysfunction alone is less likely to be due to the andropause. It may be associated with chronic illness (e.g. hypertension, diabetes, neurological conditions or depression), medication (including anti-hypertensives, anti-depressants, some cholesterol lowering drugs and anti-ulcer drugs), alcohol, cigarette smoking, surgery (especially prostatectomy) or trauma.

Hormone replacement may be taken by mouth or by other methods. Andriol (testosterone undecanoate) taken orally is an esterified form of testosterone, an attempt to limit its metabolism on first pass through the liver. However, this form of testosterone administration is often badly absorbed and has largely been discredited. Other methods are better absorbed and include skin patches (Androderm), intramuscular injections (Sustanon, Reandron), sublingual lozenges (troches), gels (Testogel) or subcutaneous implants. The choice between these various deliveries depends on personal preference. Patches and gels may have adverse skin reactions. Injections are not bioidentical. Subcutaneous implants are implanted at the same time, delivering testosterone slowly over a period of 6 months, having the advantage of convenience and bioidentical formulation; however in a small number of men, tachyphylaxis may occur (requiring larger doses to produce the same effect because of downregulation of androgen receptors).

It may be necessary to treat erectile dysfunction separately using Viagra or similar oral preparations or penile injections such as Caverject.

In general, testosterone replacement therapy is safe. Currently, there has been no evidence linking the long term use of testosterone to the development of cancer of the prostate (Morgentaler *et al.* 2009).

Despite this, regular blood tests (PSA) and digital examinations for the prostate should be performed. Cancer of the prostrate is very common in the elderly and some patients will inevitably develop it while on treatment. These patients will have to cease their treatment. It is also possible that future studies may show a higher, or indeed lower, risk of developing cancer while on testosterone treatment; this must be understood before committing to long term therapy. Existing cancer of the prostrate or cancer of the breast (1% of cancers of the breast occur in men) are absolute contraindications to treatment.

Recent studies have shown conflicting results concerning the importance of testosterone in maintaining cardiovascular health (Haddad *et al.* 2007, Jones and Saad 2009). Nevertheless, maintaining normal testosterone levels in elderly men has been shown to improve parameters which are thought to reduce cardiovascular disease risk, such as increased lean body mass, decreased visceral fat mass, decreased total cholesterol, and glycaemic control (Stanworth and Jones 2008).

A study involving a population of older men (mean age 74 years) did show an increased risk of cardiovascular related adverse events, although the small size of the trial and the unique

population prevent broader inferences about the safety of testosterone therapy (Basaria *et al.* 2010).

There are some health benefits other than symptom relief and these include reduced risk of osteoporosis and increase in muscle strength.

We are living longer than ever before, with increasing demands on us; there is quite understandably a desire for increased and long lasting vitality through to old age and hormone replacement can help provide this. Treatment, however, should only be taken if symptoms are compatible with the andropause, and not for recreational means such as bulking up at the gym or pure enhancement of one's sex life. There must be a significant improvement in the patient's symptoms to consider long term treatment otherwise treatment should be stopped or modified. Regular monitoring should include examination (BP measurement and digital rectal examinations) and bloods tests (FBE, LFT, PSA and testosterone levels).

Further information may be obtained from Andrology Australia (http://www.andrologyaustralia.org). Other reading includes 'Maximising Manhood – Beating the Male Menopause' by Dr Malcolm Carruthers (published by Harper Collins).

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Patient Consent

Having read the above information sheet and understanding the benefits and risks of HRT in men (including the possibility of stimulating prostate cancer), I consent to testosterone replacement therapy. I also understand the need for regular blood tests and examinations throughout the treatment course.

Name:
Signed:
Date: