

Gold Cross Medical Centre, Harley Street

NHS or private referrals: private

First qualified: Middlesex Hospital, London, 1960

Career development:

1961 — GP in Highgate, London

1966 — trained as chemical pathologist at the Middlesex Hospital, with an MD thesis in endocrine responses to stress

1972 — senior lecturer in chemical pathology, St Mary's Hospital, London

1976 — consultant director of clinical laboratory services, Maudsley and Bethlem Royal Hospitals, London

1977 — developed interest in effects of testosterone treatment, especially on the andropause

goes back to 1944, when the *Journal of the American Medical Association* described the condition, the cause of which was confirmed by measuring raised urinary gonadotrophins, and the response to testosterone injections in a double-blind trial.

When is treatment indicated?

In more than 80 per cent of cases of andropausal symptoms, the diagnosis can be made by measuring the free androgen index — the total testosterone level divided by the level of the carrier protein, sex hormone-binding globulin, expressed as a percentage.

Where this figure is less than 50 per cent, treatment is definitely indicated. If the clinical picture is clear, a two- or three-month trial of

treatment is usually worth while even above this level.

What does treatment involve?

In most cases, treatment with oral testosterone undecanoate is effective. The usual starting dose is 40mg three times daily after food, increasing in monthly increments to 80mg or 120mg twice daily.

Sometimes gastric irritation or loose bowels make a trial of the weaker androgen mesterolone necessary.

Methyl testosterone should be avoided because of its hepatotoxic and cardiotoxic effects. Its use, particularly in the USA, has been responsible for much of the mythology surrounding testosterone replacement.

For effective long-term treatment, testosterone pellets

are sometimes implanted into the buttock. Six to 10 pellets of 200mg provide safe control of symptoms for six months. Some patients have had this form of treatment for up to 50 years without problems, demonstrating its safety.

Testosterone injections are not as convenient or effective and are rarely used.

The new patches have to be applied daily and can cause skin reactions.

Our clinic recently completed a large-scale study confirming the safety and efficacy of testosterone treatment, which supports the results of research in Belgium, the Netherlands, and Denmark.

How does the treatment work?

Testosterone treatment produces a measurable increase in total testosterone. Usually, this is within the physiological range, but sometimes, especially with implants and injections, it may be above it.

Some treatments, especially oral testosterone undecanoate, also directly suppress hepatic production of sex hormone-binding globulin, producing a double effect on the free androgen index.

This is reflected in the reproducible and sustained remission of symptoms, with increased mental and physical energy levels, lifting of depression, and restoration of libido and potency.

What investigations should patients have?

Because of the many factors that contribute to the onset of the andropause, when a patient presents with symp-

ptoms that seem to be related to it, the opportunity should be taken to do a general health review.

As well as a full history, this would ideally include a detailed endocrine, biochemical and haematological profile.

The essential elements are the total testosterone and sex hormone-binding globulin levels, from which the free androgen level can be calculated.

Raised follicle-stimulating hormone and luteinising hormone may also help confirm the diagnosis, and the initial screen should include a prolactin measurement to exclude prolactinoma.

Pre-existing prostate cancer is the one contra-indication to testosterone treatment, and this can usually be excluded by a digital rectal examination and prostate-specific antigen (PSA) measurement.

If the PSA is borderline, or the patient is older than 50 or has a family history of prostate cancer, a transrectal ultrasound of the prostate is needed.

What follow-up is needed?

Treatment is monitored every three months until the response is established, then reviewed every six months.

Patients also need continuing advice on lifestyle changes such as reducing stress, alcohol consumption and weight.

What are the success rates?

Most andropausal symptoms

Testosterone treatment produces a measurable increase in total testosterone

will respond to treatment in more than 80 per cent of cases.

However, because there may be psychological, neurological and physiological problems involved in erectile dysfunction, the success rate is slightly lower. About 70 per cent of cases respond, and traditional prostaglandin treatments may need to be added.

Treatment is less successful in men over 70 years old.

Does testosterone have a preventive role?

At present, HRT for men is recommended only for clearly defined and diagnosed andropausal causes.

However, as with HRT for women, testosterone is being shown to have many beneficial effects on men's health, and it may come to be similarly regarded as part of preventive medicine.

Its role in the prevention and treatment of heart and circulatory diseases has been described by the Danish physician Dr Jans Møllegaard, and it may also help prevent stroke, osteoporosis, muscle wasting and other signs of ageing.



Men presenting with andropausal symptoms need a thorough health review.