A tale of 19 testes

GEOFFREY HACKETT

Professor Hackett presents the case histories of ten doctors, providing a personal insight into the problems caused by low testosterone levels and highlighting health professionals’ reluctance to consult with sexual issues in primary care. Culley Carson adds a urologist’s comment at the end.

Case 1: Mahmood

Mahmood is a 38-year-old registrar in diabetes, who attended the erectile dysfunction (ED) clinic as part of his training. After sitting in on cases, he noted that his symptoms of tiredness, poor concentration, reduction in physical strength, ED, loss of libido and relationship stress were being reported by many men subsequently diagnosed and treated for TDS. He arranged for a total testosterone (TT) level to be taken, which was 7.1 nmol/l, rechecked with similar findings, plus low normal luteinising hormone and pre-diabetes. He had a strong family history of diabetes. After two years on long-acting testosterone undecanoate (TU), his symptoms have resolved, he has lost weight, reduced his waist circumference by 6 cm and his work performance has improved, with promotion and a research award at an international meeting.

Case 2: Alan

Alan is a 60-year-old GP with well-controlled type 2 diabetes, who attended a former colleague’s practice. He had never been asked about, or mentioned, ED in more than six years. He felt, that since retirement, he was ageing prematurely and did not have the energy or enthusiasm to enjoy his lifelong passion for dancing. He is married to Jane, a sex therapist who attended a British Society for Sexual Medicine meeting and learned of the strong associations of type 2 diabetes with TDS. Diagnosis was confirmed with levels of 8.4 and 9 nmol/l and he commenced TU, which he initially funded privately, but after several months he persuaded his GP to issue prescriptions. On contacting him two years later, he confirmed that he was fit, dancing regularly and described his testosterone replacement therapy (TRT) as ‘life-changing’.

The recent Trends article ‘A tale of four prostates’ touched many of us because of the openness of all the urologists, explaining their fears and emotions at diagnosis and throughout treatment. However, the issue of sexual function was not mentioned in any of the cases.

As I was collecting patient and professional feedback for my revalidation, I noted that I had treated 10 doctors for hypogonadism or testosterone deficiency syndrome (TDS), who all sent warm testimonials for my revalidation portfolio. Only three of them had consulted by way of GP referral, the others self-referring after attending a symposium or reading an article. This reluctance to consult GPs or local colleagues, or in some cases to visit them for follow-on prescriptions, is in stark contrast to the patients in the ‘four prostates’ paper.

The excellent discussions that followed the ‘testosterone debate’ in Trends were fascinating as they focused almost exclusively on the prostate and how to avoid possible litigation, even in the absence of evidence, with
CASE 3: AJAZ

Ajaz is a clinical research scientist aged 46 with type 2 diabetes (diet controlled), body mass index 23.2, and long-term epilepsy controlled with carbamazepine. He went to his GP with low libido, tiredness, profound fatigue and ED unresponsive to sildenafil. He was a regular long-distance swimmer and was forced to give this up. His GP took two testosterone levels, at 5.4 and 7.2nmol/l, with sex-hormone binding globulin (SHBG) of 15nmol/l, and referred him to a professor of endocrinology. The letter he received stated ‘we see many diabetics like this’; ‘we suggest lifestyle modification through diet and exercise’. He was appalled, feeling that his sexual problems were ignored and he subsequently arranged a self-referral. After two years on long-acting TU, his sex life is far better than before (now three times per week), with improved orgasm and ejaculation. It required considerable pressure on his GP to agree to prescriptions for testosterone and phosphodiesterase-5 (PDE5) inhibitors. He is back to swimming, feels much fitter and is working to a higher standard. His diabetes is well controlled. He had intermittently suffered from acne on his back and chest, which has required treatment while on TU, but he sees this as a small price to pay.

CASE 5: GEORGE

George is a 59-year-old doctor from Africa visiting on holiday and attending a day on men’s health. He suffers from type 2 diabetes, hypertension and chronic kidney disease and was investigated for anaemia in Africa with upper and lower endoscopy plus bone marrow biopsy, with negative findings. He attended with his 43-year-old wife, and it was clear that they had stopped sex more than five years ago because of his ED. After commencing TU (he obtained supplies himself), he contacted me to say that his anaemia had corrected within three months, he had lost weight and reduced his insulin and that sex, aided by oral medication, was now possible.

CASES 6 AND 7: MIKE AND JOHN

Mike is a GP of 58 with well-controlled type 2 diabetes and ED for 12 years. He is married to Paula, 11 years younger, meaning that she has been deprived of a satisfactory sex life since age 35. His ED had not been discussed previously, in spite of regular diabetes checks. He opted for self-referral and was found to have a TT of 6.8nmol/l; he responded well to testosterone gel and a PDE5 inhibitor. Two-year follow-up showed that he remains well. Nine months previously, I received a call from his son, John, a clinical psychologist aged 30, who had a testis removed for teratoma at age 22 and was complaining of feeling lethargic, tired, underperforming at work, with great strain on his marriage, as his wife was struggling to deal with his problems and two small children. He discussed his problem with his GP and was referred to an academic endocrine unit. His serial TT levels were 9.8, 10.2 and 10.6nmol/l and he was told that these levels mean that ‘testosterone is not the cause of his symptoms’. He also asked whether, considering his father and his testosterone levels, he might be at increased risk of diabetes, but this was dismissed. His father suggested self-referral and, after commencing TU, his symptoms all improved in four to six weeks and he landed a promotion at work. He had to go through a protracted battle with his practice, who demanded that the local endocrine department must provide endorsement of the therapy, which begrudgingly they did.

CASE 4: PETER

Peter is a 66-year-old physician who had always enjoyed a good sex life but had been gaining weight, and had developed hypertension and benign prostatic hyperplasia, with a PSA of 4.2ng/ml and 50cc prostate. He asked his GP to measure his TT levels, which were 9.5 and 9.8nmol/l, but his GP was reluctant to prescribe because of his prostate. After failing with sildenafil and being reluctant to consider injections, tamsulosin and finasteride then caused severe ED and absent ejaculation. He self-referred after reading the medical literature. After a long discussion, we treated him with TU and he opted for a green laser transurethral resection of the prostate and stopped the finasteride and tamsulosin, which were adversely affecting sexual function. After two years he remains very well, in terms of both lower urinary tract symptoms (LUTS) and ED, and has lost 8kg and 7cm from his waist on TU 1000mg every 10 weeks and tadalafil 5mg daily. He continues to fund both medications himself as his GP was reluctant to prescribe either.
few readers appreciating that obese patients with diabetes and metabolic syndrome usually die from cardiovascular and not prostate disease.\textsuperscript{5}

The doctors in the case histories presented here were keen for their experiences to be reported without being identified, in stark contrast to the brave urologists in the ‘Tale of four prostates’.

**LEARNING POINTS**

There are several learning points here. Physicians see sexual activity and successful relationships as very important to them. They find it especially difficult to consult with sexual issues in primary care, where they may be seeing friends and colleagues. Likewise, they are probably less likely to be asked about sexual issues at chronic disease visits. They are more likely to research the medical literature and seek help from ‘experts’, especially where there is no National Institute for Health and Care Excellence (NICE) guidance to aid the primary care physician. As patients, they find it difficult to obtain both TRT and ED therapy through the NHS repeat prescribing route, which is far from ideal, as both conditions overlap many chronic diseases.

Had the author not been seeking the mandatory feedback on performance from patients and colleagues for revalidation purposes, the impact of TRT would not have been detected. While we are all preoccupied with the cost of treating TDS and ED,\textsuperscript{5,6} what is striking here are the consistent testimonies of improved work performance and ‘saved relationships’. Clearly, waiting a further decade for the outcome of large long-term outcome studies\textsuperscript{5} was not considered a viable option. Although difficult to quantify, the financial benefits of improved medical performance are likely to far outweigh the cost of drugs. Similar benefits are likely to be seen in the work performance and quality of life of many of our patients and their families.

**CASE 8: RAMAN**

Raman is a 46-year-old neurologist with mild ED but reduced enjoyment of life and his sex life in particular. He feels that his marriage is at risk and his wife accuses him of having an affair (they have three small children). He tried sildenafil and tadalafil, but both caused headache even at small doses, with no improvement. He self-referred and his TT levels were only marginally low (10.2, 11.0 and 11.4nmol/l) with SHBG 42nmol/l; a three-month trial of testosterone gel was suggested. He noted improved morning erections and spontaneous sexual activity returned with no need for ED medication. His follow-up email stated that he is certain that the TRT saved his marriage.

**CASE 9: RASHID**

Rashid is a 58-year-old consultant psychiatrist with type 2 diabetes, who was putting on weight and becoming tired, lethargic and depressed. He consulted a fellow psychiatrist, who prescribed several antidepressants with moderate effect, and eventually advised retirement on health grounds. Only at this stage did he mention low libido and ED to his GP, despite suffering for five years, as the GP was a ‘good friend’. He was referred as an NHS patient and found to have a TT of 5.8nmol/l. Response to TU was dramatic with 8kg weight loss, 5cm from his waist, and restored sexual function with the help of a PDE5 inhibitor. He now had no regular job but returned to locum work as he felt ‘sharper than for years’. He stated that his major regret is that, over his psychiatric career, he must have missed several patients complaining of similar symptoms but who had only been treated as depressed.

**CASE 10: MO**

Mo is 50 with ED, type 2 diabetes, hypertension, dyslipidaemia and LUTS. He had a urethral stricture dilated three years ago. PDE5 inhibitors were unsuccessful, and his GP referred him to the ED clinic. His TT levels were 9.8 and 10.2nmol/l and long-acting TU and tadalafil were suggested in view of his moderately bothersome LUTS. At his initial TU injection, he had a 30cc benign prostate with PSA 1.8ng/ml. After his second TU injection, his GP repeated his PSA and it was 4.8 and then 6.2ng/ml, so he was advised to stop testosterone. He was extremely concerned and prostate biopsy was considered, but a further PSA was 2.4 and then 2.2ng/ml and the cause was presumed to be low-grade prostate infection. As the effects of the TU last three months, he was seeing benefit in both ED and LUTS, which would not have been detected with short-acting formulations. Twelve months later at follow-up he is well, his sex life is good and his PSA levels remain normal.
The urologist's comment

CULLEY C. CARSON

The cases of hypogonadism that Geoff Hackett describes are as common on the US side of the Atlantic. Indeed, many primary care practitioners do not suspect low testosterone in the patients most likely to suffer from the symptoms of low testosterone, or they are reluctant to treat these men for fear of side-effects such as prostate changes or even prostate cancer.

It is important to the health of the ageing male to have high suspicion for low testosterone, especially in those at high risk. The cases presented highlight the association of low testosterone in more than one-third of diabetics. Low testosterone is also prevalent in men taking opioid analgesics, and in those with ED, Peyronie's disease, metabolic syndrome and sleep apnoea. Identifying and treating these men is essential to their health and facilitates insulin sensitivity, vascular health, urinary symptoms and bone health without the risk for prostate cancer that is the conventional wisdom.

Indeed, as a urologist, I am frequently asked by my primary care colleagues about prostate health and testosterone normalisation. We, as specialists in men's health, must be more effective in combating the myth of testosterone replacement causing prostate cancer as it is a common untruth. Men who are appropriately diagnosed and treated for low testosterone levels with symptoms of hypogonadism are among the most grateful of patients, and the long-term benefits to these men is significant.