Sexual dysfunction

ED in diabetes: Neurovascular disease is not always to blame

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The majority of cases of erectile dysfunction (ED) in diabetes can be linked to loss of integrity of the penile neurovascular supply. Indeed it has been estimated that neurological impairment contributes to 80% of cases of ED in people with diabetes (Ellenberg, 1971). The selection of articles this quarter, however, highlights the importance of being vigilant for other causes of ED, some of which may be reversible.

Shiri and colleagues (see right) have examined the frequency of ED in men using non-steroidal anti-inflammatory drugs (NSAIDs), one of the most commonly used class of agents that is prescribed and available over the counter within the UK. After adjusting for age, smoking and other medical conditions and treatment, NSAIDs were, broadly speaking, associated with a 2-fold increased likelihood of developing ED independent of their indication for use. The authors postulate that most NSAIDs, through competing with arachidonic acid and inhibiting the synthesis of prostaglandins and thromboxane, may interfere with the nitric oxide pathway which is integrally involved in achieving tumescence.

Meanwhile Glina and colleagues (see below) report the high frequency of ED in men with lower urinary tract symptoms (LUTS; causes were unspecified but it was implicit that many patients had prostatic hypertrophy). Overall, one in nine men with moderate or severe LUTS reported ED, which was 'complete' in 29% of those affected. This association may be explained by changes in smooth muscle morphology and action that simultaneously affect urinary and erectile function.

In an elegant article by Corona and colleagues (see page 174), attention is drawn to the 2-fold increase of hypogonadism in people with diabetes compared with those without attending an outpatient clinic for sexual dysfunction. Through further biochemical and physiological analysis, the authors conclude that diabetes-associated hypogonadism might exacerbate ED by reducing libido and mood, which further compromises penile vascular reactivity.

Finally, sleep apnoea syndrome, which is more common in people with diabetes, was found by Teloken and colleagues (see page 174) to be associated with a 4-fold increase in ED compared with those men with normal sleeping patterns; this was possibly related to hypogonadism, cavernosal hypoxia or both.

What is not known (and not addressed in these studies), however, is whether treatment of these above conditions or cessation of an offending drug will necessarily reverse the patient's ED.

Ellenberg M (1971) Impotence in diabetes: the neurologic factor. *Annals of Internal Medicine* **75**(2): 213–9

BJU INTERNATIONAL

Support provided for link between ED and LUTS

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓

1 Recent epidemiological studies have detected a close link between lower urinary tract symptoms (LUTS) and erectile dysfunction (ED).

2 This cross-sectional study (n=118) aimed to determine if there was a link between the International Prostate Symptom Score (IPSS; a measure of benign prostatic hyperplasia severity) and the Sexual Health Inventory for Men (SHIM; a measure of ED severity).

3 A Pearson correlation coefficient of –0.32 (P<0.001) was found between the IPSS and the SHIM, providing support for the association between LUTS and ED.

Glina S, Santana AW, Azank F et al (2006) Lower urinary tract symptoms and erectile dysfunction are highly prevalent in ageing men. *BJU International* **97**(4): 763–5

JOURNAL OF UROLOGY

Use of NSAIDs increases risk of ED

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

1 The authors aimed to address the lack of research into the incidence of erectile dysfunction (ED) relating to the use of non-steroidal anti-inflammatory drugs (NSAIDs).

2 In 1994, a questionnaire was posted to 3143 Finnish men aged 50, 60 or 70 years; 5 years later, 2864 of these men received a follow-up questionnaire.

3 Responses to both the baseline and follow-up questionnaires were received from 1683 men, and the application of exclusion criteria whittled down this group to 1126 men who were free from moderate or complete ED at baseline.

4 Two questions were used to assess the ability of men to achieve and sustain an adequate erection for sexual intercourse: 'Have you had problems getting an erection before intercourse begins?' and 'Have you had problems maintaining an erection once intercourse has begun?'.

5 The incidence of ED in men using NSAIDs was 93 cases per 1000 person-years, while that in men not using NSAIDs was 35 cases per 1000 person-years.

6 The multivariate-adjusted relative risk of ED was higher in men using NSAIDs than in those not using them (incidence density ratio [IDR], 1.8; 95% confidence interval [CI], 1.2–2.6).

7 Further analysis led the authors to conclude that the differences could not be accounted for by arthritis as an indication of NSAIDs use.

Shiri R, Koskimaki J, Hakkinen J et al (2006) Effect of nonsteroidal anti-inflammatory drug use on the incidence of erectile dysfunction. *Journal of Urology* **175**(5): 1812–5

'The severity of sleep apnoea syndrome and that of erectile dysfunction were found to be statistically associated.'

'Diabetes mellitus associated with hypogonadism might lead to an exacerbation of sexual dysfunction by reducing sexual desire and mood as well as further compromising vascular reactivity in the penis.'

INTERNATIONAL JOURNAL OF IMPOTENCE RESEARCH

Increase in hypogonadism rates seen in people with diabetes

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

1 This study was carried out to explore the characteristics of diabetes mellitus associated with hypogonadism (DMAH).

2 Psychological, biological and instrumental tests, and SIEDY, a structured interview technique, were employed in 1024 men with a mean age of 50.9 years attending an outpatient erectile dysfunction clinic.

3 A circulating total testosterone of 10.4 nmol/l was used as the cut-off for defining hypogonadism.

4 Hypogonadism had a prevalence of 24.5 % in people with diabetes and 12.6 % in people without ($P<0.0001$ for difference).

5 Adjustment for body mass index and age did not overturn the statistical significance of the difference.

6 DMAH was found to be linked to symptoms commonly seen in association with hypogonadism, including reduced libido and a drop in the number of attempts at intercourse; it was also associated with a higher depressive symptomatology.

7 The authors concluded that DMAH might lead to an exacerbation of sexual dysfunction by reducing sexual desire and mood as well as further compromising vascular reactivity in the penis.

Corona G, Mannucci E, Petrone L (2006) Association of hypogonadism and type II diabetes in men attending an outpatient erectile dysfunction clinic. *International Journal of Impotence Research* **18**(2): 190–7

UROLOGY

ED severity related to sleep apnoea syndrome severity

Readability	✓✓✓✓
Applicability to practice	✓✓✓
WOW! factor	✓✓✓

1 Studies have reported an association between sleep apnoea syndrome (SAS) and erectile dysfunction (ED), but none of them used a validated instrument for ED.

2 Statistical analysis was conducted on values obtained from the Epworth Sleepiness Scale (ESS) and the International Index of Erectile Function (IIEF) in 50 men attending a sleep clinic.

3 Of the 30 men with abnormal ESS scores, 80 % had ED as determined using the IIEF, while of the 20 men with normal ESS scores, only 20 % were found to have ED ($P<0.01$ for difference).

4 The severity of SAS and that of ED were also found to be statistically associated (Pearson correlation coefficient, –0.8; $P=0.0012$).

5 It is noted that obesity is the most important risk factor for SAS.

Teloken PE, Smith EB, Lodowsky C et al (2006) Defining association between sleep apnea syndrome and erectile dysfunction. *Urology* **67**(5): 1033–7

FERTILITY AND STERILITY

Sildenafil shows benefits in women with type 1 diabetes

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

1 The sexual function of women with diabetes is a relatively poorly studied area, despite the condition having been shown to increase the risk of female sexual dysfunction.

2 The aim of this double-blind, placebo-controlled cross-over pilot study (n=36) was to verify the effectiveness of 100 mg sildenafil in premenopausal women with type 1 diabetes and sexual arousal disorder.

3 Relative to baseline, sildenafil was associated with significant improvements in arousal, orgasm, enjoyment and dyspareunia; relative to placebo, sildenafil was associated with significant improvements in arousal, orgasm and dyspareunia.

Caruso S, Rugolo S, Agnello C et al (2006) Sildenafil improves sexual functioning in premenopausal women with type 1 diabetes who are affected by sexual arousal disorder. *Fertility and Sterility* **85**(5): 1496–501

BJU INTERNATIONAL

Hyperglycaemia prevents fluid shear stress-induced nitric oxide production

Readability	✓✓✓
Applicability to practice	✓✓✓
WOW! factor	✓✓✓✓

1 This study investigated whether fluid shear stress (FSS) induces nitric oxide (NO) and endothelial nitric oxide synthase (eNOS) in human corpus cavernosal endothelial cells (HCCECs), and also if the response was affected by high glucose levels.

2 The in vitro data collected suggest that FSS has a role in NO release and eNOS activation in HCCECs; furthermore, the data provide support for in vivo reports of haemodynamic signalling playing a part in the erectile response.

3 Finally, high glucose levels stopped FSS-induced NO release, which is a potential mechanism in the contribution of diabetes to erectile dysfunction.

Wessells H, Teal TH, Engel K et al (2006) Fluid shear stress-induced nitric oxide production in human cavernosal endothelial cells: inhibition by hyperglycaemia. *BJU International* **97**(5): 1047–52