Sexual dysfunction

Erectile dysfunction in type 1 diabetes – now in the limelight

Mike Cummings, Consultant Physician and Honorary Professor, Queen Alexandra Hospital, Portsmouth

The Diabetes Control and Complications Trial (DCCT Research Group; 1993) and long-term follow-up Epidemiology of Diabetes Interventions and Complications (EDIC; Nathan et al, 2005) study are probably best known as seminal papers in determining the benefits of intensive glycaemic control in type 1 diabetes. The favourable outcome of intensified glycaemic control on microvascular complications was unequivocally proven, yet there was little impact of intensive treatment on macrovascular outcome.

Some would argue this related to the population chosen – generally a younger age group in which there would be a low expected yield of macroangiopathy confounding interpretation, and that longer-term follow-up may start to address this issue. Therefore, it is gratifying that the authors of the DCCT undertook longer-term surveillance in the EDIC trial. However, even more gratifying is that the investigators specifically sought to investigate erectile dysfunction (ED) in a well-characterised group of individuals. Hitherto, ED-related studies focusing on type 1 diabetes exclusively have been unusual, and Penson et al (summarised alongside) have provided useful insight into the most common complication of diabetes in men (ED), which may originate due to microvascular, macrovascular or mixed angiopathy. They report that one-third of men with type 1 diabetes were affected by ED as well as diminished libido (55%), and orgasmic dysfunction (20%). Moreover, ED had the greatest impact on quality of life. Phosphodiesterase type-5 inhibitors have been exclusively investigated in type 1 diabetes, and thankfully have been very effective in restoring tumescence. In mixed diabetic populations, other traditional forms of treatment, such as intra-cavernosal injections, are successful options.

What would be interesting to know from the EDIC study is whether there was a difference in ED prevalence between the intensive and conventional glycaemic treatment arms, which may provide additional incentive for men with diabetes to strive for near euglycaemia.

Diabetes Control and Complications Trial Research Group (1993) The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *N Engl J Med* **329**: 977–86

Nathan DM, Cleary PA, Backlund JY et al (2005) Intensive diabetes treatment and cardiovascular disease in patients with type 1 diabetes. *N Engl J Med* **353**: 2643–53

JOURNAL OF SEXUAL MEDICINE

Glycaemic control linked to ED prevalence in T2D

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

1 This Chinese study was undertaken to determine whether suboptimal glycaemic control is linked to the development of erectile dysfunction (ED) in men with type 2 diabetes (T2D).

2 The authors provided 792 men who had T2D with the Sexual Health Inventory for Men questionnaire. Clinical data were obtained from records.

3 The contribution of glycaemic control to ED risk was evaluated, as well as age, diabetes duration, hypertension, dyslipidaemia and smoking.

4 Of the 792 participants, 83.6% reported having ED and 43.2% had severe ED. Only HbA_{1c}, age and duration of diabetes were significantly associated with development of ED ($P=0.03$, $P<0.001$, $P=0.003$, respectively).

5 It was concluded that better glycaemic control would reduce the prevalence of ED among younger people with diabetes.

Lu CC, Jiann BP, Sun CC et al (2009) Association of glycemic control with risk of erectile dysfunction in men with type 2 diabetes. *J Sex Med* **6**: 1719–28

JOURNAL OF SEXUAL MEDICINE

Erectile dysfunction more stressful than orgasmic dysfunction or low libido

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

1 This study was undertaken to determine the relationship between erectile dysfunction (ED), orgasmic dysfunction (OD), decreased libido (DL) and overall sexual satisfaction in men with type 1 diabetes, and to determine which form of dysfunction causes the most distress.

2 The study population comprised 713 men with type 1 diabetes who completed both the Diabetes Control and Complication Trial and then the follow-up Epidemiology of Diabetes Interventions and Complications (EDIC) study.

3 At year 10 of the EDIC study, 583 men completed the International Index of Erectile Function assessment of ED, OD, and DL, and the distress each these conditions caused was analysed.

4 DL was present in 55% of the men surveyed. ED was present in 34% and OD in 20%. When correlated with overall sexual satisfaction, however, ED had the strongest association with overall sexual distress.

5 It was concluded that while ED, OD and DL are prevalent in a large number of men with diabetes, and all three cause a degree of distress, the inability to obtain and keep an erection caused the most anxiety.

6 The authors recommended asking men with diabetes about their sexual function during routine appointments.

Penson DF, Wessells H, Cleary P et al (2009) Sexual dysfunction and symptom impact in men with long-standing type 1 diabetes in the DCCT/EDIC cohort. *J Sex Med* **6**: 1969–78

JOURNAL OF SEXUAL MEDICINE

Severity of erectile dysfunction determines treatment seeking

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

1 This study was undertaken to determine the treatment-seeking patterns for erectile dysfunction (ED) by men with type 2 diabetes.

2 A questionnaire involving the Sexual Health Inventory for Men and questions inquiring treatment-seeking patterns was provided to 4040 men with type 2 diabetes who attended the authors' endocrinology outpatient department between January 2004 and May 2006.

3 Of the 844 men who completed and returned the questionnaire, 708 had some degree of erectile dysfunction (ED). Respondents were classified as having mild, mild–moderate, moderate or severe ED.

4 Those in the moderate ED group were the most distressed by the problem (89.4%), were the most interested in treatment for ED (78.5%) and were most likely to have sought treatment (46.2%).

5 Of all the respondents, only 14.2% had visited "Western" doctors due to embarrassment and misinformation regarding treatment for ED, such as not believing there was effective treatment or that it was harmful.

6 Only 56.6% of respondents wanted to discuss ED with their physician, and 90.4% wished that the doctor would initiate conversation about it.

7 The authors recommended that physicians caring for people with diabetes screen for, and broach the subject of, ED.

Jiann BP, Lu CC, Lam HC et al (2009) Patterns and their correlates of seeking treatment for erectile dysfunction in type 2 diabetic patients. *J Sex Med* **6**: 2008–16

JOURNAL OF SEXUAL MEDICINE

Peyronie's disease exacerbates ED in type 2 diabetes

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

1 The authors of this study assessed the effect type 2 diabetes and Peyronie's disease (PD) have on erectile function in people with either or both of the conditions.

2 Enrolled in this study were 304 men with a diagnosis of erectile dysfunction (ED). All had a concurrent diagnosis of either type 2 diabetes (n=214), PD (n=28) or both (n=62).

3 The International Index of Erectile Function was administered, and demographic data were collected. PD was diagnosed based on palpable penile plaque or acquired curvature.

4 People with both type 2 diabetes and PD had significantly poorer erectile function than those with either condition alone.

5 PD has an additive impairment on erectile function in people with type 2 diabetes.

El-Sakka AI, Tayeb KA (2009) Vascular impairment of erection in patients with diabetes and Peyronie's disease: is that accumulative? *J Sex Med* **6**: 1736–42

INTERNATIONAL JOURNAL OF IMPOTENCE RESEARCH

Educating physicians does not increase diagnosis of ED

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

1 As erectile dysfunction (ED) is both under-diagnosed and under-treated, the authors of this study investigated whether raising physicians' awareness of the condition and treatment modalities would improve this.

2 The intervention group comprised 39 primary care doctors (caring for a total 1959 people) who received lectures on ED, with 20 also receiving a list of high-risk individuals at their clinics. The control group comprised 39 physicians caring for a total of 1903 individuals.

3 In comparing the 6 months following the intervention with the 6 months preceding it, there was no significant difference in the number of people diagnosed with ED, referred to urologists, or initiating phosphodiesterase type-5 inhibitor therapy between the control and intervention groups.

4 The authors concluded that sporadic lectures and lists of high-risk individuals does not alter physicians' behaviour with regard to ED.

Azuri J, Gelerenter R, Dushinat M et al (2009) Raising awareness for the diagnosis and treatment of erectile dysfunction in patients with high risk to develop ED. *Int J Impot Res* **21**: 249–52

ASIAN JOURNAL OF ANDROLOGY

Udenafil modulates cNOS expression

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

1 This study was undertaken to examine the relationship between erectile dysfunction (ED) and constitutive nitric oxide sythetase (cNOS), and also to determine the effect of udenafil on ED and cNOS expression.

2 Sprague-Dawley rats with streptozotocin-induced diabetes were given daily oral treatment with udenafil, and intra-cavernosal pressure:mean arterial pressure (ICP:MAP) ratio was measured in the corpus cavernosum. cNOS expression was measured using reverse transcriptase and immunoblots.

3 ICP:MAP and cNOS levels were decreased in diabetic rats, but long-term udenafil treatment increased cNOS levels and improved erectile function.

Ahn GJ, Chung HK, Lee CH et al (2009) Increased expression of the nitric oxide synthase gene and protein in corpus cavernosum by repeated dosing of udenafil in a rat model of chemical diabetogenesis. *Asian J Androl* **11**: 435–42

"Physicians caring for people with diabetes should screen for, and broach the subject of, erectile dysfunction."