Sexual dysfunction

Impact of pancreatic–renal transplantation on erectile dysfunction in type 1 diabetes

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

Traditionally, it has been perceived that most diabetic complications, once established, remain for life; treatment plans focus on symptom control and slowing progression. This view has equally applied to erectile dysfunction, a condition that is typically progressive in men with diabetes.

However, this position has been challenged in some recent studies that suggest weight loss (Esposito et al, 2004) and smoking cessation (Pourmand et al, 2004) may improve erectile performance. This concept of "non-reversible" complications is further put to the sword by the article by Salonia and colleagues (2011; summarised alongside).

Salonia et al examine sexual function in uraemic men with type 1 diabetes undergoing kidney transplant, with or without pancreatic transplant. The incidence of erectile dysfunction in this pre-transplant population is known to be extremely high (60–90%; Tavallaii et al, 2009). What was surprising in Salonia et al's study was that simultaneous kidney–pancreas transplantation was associated with restoration of near-normal sexual function. Moreover, this improvement in sexual function was greater than among those who underwent kidney transplant alone, suggesting that the achievement of normoglycaemia was paramount in improving erectile function in this group.

The authors of the study speculate that reversing of poor erectile performance may be related to improvement in oxidative stress, cavernosal endothelial function, penile arterial flow and endocrine function. Although the sample size in this study was low, the findings merit further investigation, and may reveal another potential benefit associated with kidney–pancreas transplantation.

> *"... simultaneous kidney–pancreas transplantation was associated with restoration of near-normal sexual function ... suggesting that the achievement of normoglycaemia was paramount in improving erectile function ..."*

Esposito K, Giugliano F, Di Palo C et al (2004) Effect of lifestyle changes on erectile dysfunction in obese men: a randomized controlled trial. *JAMA* **291**: 2978–84

Pourmand G, Alidaee MR, Rasuli S et al (2004) Do cigarette smokers with erectile dysfunction benefit from stopping?: a prospective study. *BJU Int* **94**: 1310–3

Tavallaii SA, Mirzamani M, Heshmatzade Behzadi A et al (2009) Sexual function: a comparison between male renal transplant recipients and hemodialysis patients. *J Sex Med* **6**: 142

INT J ANDROLOGY

Erectile response to PDE5I preserved with simvastatin

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

1 The authors investigated whether erectile response to type 5 phosphodiesterase inhibitor (PDE5I) in 40 insulin-treated diabetic rates was impacted by adjunctive simvastatin.

2 Rats receiving adjunctive simvastatin and treated with PDE5I showed normalised erectile responses, while controls not receiving adjunctive simvastatin did not.

3 The authors concluded that adjunctive use of simvastatin to conventional insulin treatment showed more effectiveness in restoring erectile responses in diabetic rats than insulin treatment alone.

Park K, Cho SY, Kim SW (2011) Erectile response to type 5 phosphodiesterase inhibitor could be preserved with the addition of simvastatin to conventional insulin treatment in rat model of diabetes. *Int J Androl* **34**: e468–74

TRANSPLANTATION

Kidney–pancreas transplantation is associated with near-normal sexual function in T1D men

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

1 End-stage renal disease (ESRD) among people with T1D is known to be associated with a high incidence of poor sexual function, which impacts quality of life.

2 In the present study, the investigators aimed to assess sexual function in men with T1D and ESRD who received a simultaneous kidney–pancreas (KP) or kidney-alone (KD) transplantation.

3 Ten people undergoing KP, 10 undergoing KD, nine with ESRD, and 11 healthy controls were recruited and their medical and sexual histories, along with sexual function, depression and sensory inventories were obtained.

4 Self-reported satisfactory erectile function was higher among controls and those who underwent KP, as compared with those with KD or ESRD.

5 Controls and those who underwent KP showed better penile haemodynamic parameters compared with KD and ESRD.

6 The authors concluded that sexual function, circulating sex steroids, penile sensitivity and haemodynamics are near-normalised following in KP transplantation. The authors call for future studies to assess the beneficial role and overall impact of KP transplantation on sexual function in a long-term setting and a larger cohort.

Salonia A, D'Addio F, Gremizzi C et al (2011) Kidney-pancreas transplantation is associated with near-normal sexual function in uremic type 1 diabetic patients. *Transplantation* **92**: 802–8

ENDOCRINOLOGY

Inclusion of ED improves screening for coronary artery disease in diabetes

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

1 Current screening guidelines are known to miss approximately 40% of asymptomatic coronary artery disease (CAD) in people with diabetes.

2 Given that erectile dysfunction (ED) is a powerful marker of asymptomatic CAD, the authors sought to evaluate whether ED could improve the effectiveness of the current guidelines for the screening of CAD in men with diabetes.

3 Consecutive men (n=293; mean age, 56.6±5.9 years) with newly diagnosed T2D without apparent vascular complication were enrolled; 219 did not have CAD, while 74 had a coronary stenosis demonstrated only by angiography.

4 The five risk factors included in the current screening guidelines (hypertension, dyslipidaemia, family history for CAD, smoking, micro- or macroalbuminuria) and ED were assessed.

5 ED was found to be significantly more prevalent in the asymptomatic CAD group than among men without CAD (37.8 vs 15.1%; P<0.001) and was predictive of asymptomatic CAD (odds ratio, 4.4; 95% confidence interval, 2.1–9.0; P<0.001).

6 The authors find that including ED as a risk factor in screening for CAD increases its sensitivity from 62 to 89%, without a significant variation in specificity (from 60 to 57%), thus its inclusion reduces the percentage of men with silent CAD missed during screening from 37.84 to 10.81%.

Gazzaruso C, Coppola A, Montalcini T et al (2011) Erectile dysfunction can improve the effectiveness of the current guidelines for the screening for asymptomatic coronary artery disease in diabetes. *Endocrine* **40**: 273–9

JOURNAL OF SEXUAL MEDICINE

Weight loss improves sexual function in obese men with diabetes

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

1 To determine the effects of diet-induced weight loss on sexual function, obese men (n=31; BMI, ≥30 kg/m^2; mean age, 59.7 years) with diabetes received either a meal replacement, low-calorie diet (LCD) or low-fat, high-protein (HP) diet for 8 weeks.

2 Weight reduced by approximately 10% with both diets at 8 weeks and there were significant improvements in plasma glucose levels, erectile function, sexual desire and urinary symptoms with both.

3 The authors concluded that diet-induced weight loss in obese men with diabetes provides rapid improvement in sexual, urinary, and endothelial function in obese diabetic men.

Khoo J, Piantadosi C, Duncan R et al (2011) Comparing effects of a low-energy diet and a high-protein low-fat diet on sexual and endothelial function, urinary tract symptoms, and inflammation in obese diabetic men. *J Sex Med* **8**: 2868–75

JOURNAL OF SEXUAL MEDICINE

DM-related factors have little impact on sexual functions in women with DM

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

1 In this questionnaire-based, cross-sectional study, 242 women (aged, 18–55 years) with T1D or T2D were surveyed by the authors to establish the mediators of sexual dysfunction (SD) in the population of women with DM using the Female Sexual Function Index (FSFI).

2 SD was diagnosed in 33% of those surveyed; women with T2D had a significantly lower FSFI scores than those with T1D, except for pain.

3 The authors found that neither the presence of diabetic complications, nor glycaemic control, was a moderator of SD; the only significant predictors of SD were depressive symptoms, the importance of sex to the respondent and satisfaction with their partner.

Nowosielski K, Skrzypulec-Plinta V (2011) Mediators of sexual functions in women with diabetes. *J Sex Med* **8**: 2532–45

J ANDROLOGY

Metformin improves erectile function in those with poor response to sildenafil

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

1 The authors undertook a prospective, randomised, controlled, double-blind placebo study to assess the effect of treatment with metformin on response to sildenafil in men (n=30) without diabetes with erectile dysfunction (ED) and a known poor response to sildenafil.

2 Participants were randomised to receive metformin (n=17) or placebo (n=13) therapy.

3 The metformin group showed a significant increase in erectile function at 2 (P=0.01) and 4 (P=0.005) months, with no changes in this parameter in those receiving placebo; however, men receiving metformin experienced more adverse events than the placebo group (61.5% vs 7.7%; P=0.03).

4 The authors concluded that treatment with metformin in men with ED and poor response to sildenafil improves erectile function.

Rey Valzacchi GJ, Costanzo PR et al (2011) Addition of metformin to sildenafil treatment for erectile dysfunction in eugonadal non-diabetic men with insulin resistance. A prospective, randomized, double blind pilot study. *J Androl* **Oct 20** [Epub ahead of print]

"… including erectile dysfunction as a risk factor in screening for coronary artery disease increases its sensitivity … thus its inclusion reduces the percentage of men with silent coronary artery disease missed during screening."