Sexual dysfunction

Making the best of the link between erectile dysfunction, diabetes and cardiovascular disease

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In this month's section on erectile dysfunction (ED), researchers' fascination with linking the condition with cardiovascular disease and diabetes continues.

In their study, Gazzaruso and colleagues (summarised alongside) have identified an unusual diabetes patient cohort; their investigations showed that every male included in the study also had silent coronary artery disease. The researchers demonstrated that the presence of ED within this study group afforded a two-fold or higher increased risk of a subsequent major cardiovascular event. Moreover, these individuals with ED appeared to have some of this cardiovascular risk attenuated by the introduction of statins and, intriguingly, phosphodiesterase type-5 (PDE-5) inhibitors.

In a further study (summarised below), Shabsigh and colleagues used a large population of 27 839 men to develop a risk-calculating tool for the development of cardiovascular disease and diabetes, which also incorporated the impact of ED upon these risks.

The link between ED, diabetes and increased risk of cardiovascular disease is now indisputable. Current research, such as the two studies quoted above, aims to examine how these observations can be translated into clinical practice. Perhaps future development of the vascular risk tables should incorporate presence of ED and other contemporary markers of circulatory disease into their matrices? This will enable further stratification and rationalisation of the patients that might benefit from therapeutic intervention.

THE JOURNAL OF SEXUAL MEDICINE

Men's future health risk calculator incorporating ED

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

1 This study aimed to create a risk calculator that incorporates factors such as overall health, severity of erectile dysfunction (ED) and waist size in order to help predict the development of diabetes, hypertension, hyperlipidaemia and angina in men.

2 Participants who had been diagnosed with ED in the Men's Attitudes to Life Events and Sexuality (MALES) 2004 study were included in this analysis.

3 The authors found that in the patient cohort (919 participants), 20.7% developed diabetes, 44.3% hypertension, 42.5% hyperlipidaemia, and 25.7% angina.

4 Factors such as general health status, waist circumference, ED severity and sexual activity were all identified as modifiable factors affecting the risk of comorbidities, and the sensitivity and specificity of these variables in the model risk calculator was 86.2% and 54.5%, respectively.

5 This analysis has shown that ED is an important consideration in calculating the probability of major risks to men's health, such as diabetes.

Shabsigh R, Shah M and Sand M (2008) Erectile dysfunction and men's health: developing a comorbidity risk calculator. *The Journal of Sexual Medicine* **5**: 1237–43

JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY

Does ED predict cardiovascular disease?

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

1 Erectile dysfunction (ED) is known to be associated with cardiovascular disease in patients with diabetes, however the details of the association are not clear.

2 This study aimed to determine whether ED is a predictive factor of future cardiovascular disease or cardiovascular-related death in people with diabetes and silent coronary artery disease (CAD).

3 The authors studied 291 men diagnosed with type 2 diabetes and CAD; all were evaluated to determine existence of ED.

4 Participants were followed for 47.2±21.8 months, during which time major adverse cardiac events (MACEs) occured in 49 patients.

5 ED was more prevalent in men who experienced a MACE compared with those who did not (61.2% and 36.4%, respectively, $P=0.001$); ED can, therefore, predict MACEs ($P<0.001$).

6 Men with CAD and ED who were receiving treatment with statins or phosphodiesterase type-5 inhibitors had a lower rate of MACEs ($P=0.048$ and $P=0.032$, respectively).

7 Thus, ED in men with diabetes who also have CAD is a strong predictor of incidence of cardiovascular events or death; occurence of MACEs can be reduced by treatment with statins or phosphodiesterase type-5 inhibitors.

Gazzaruso C, Solerte SB, Pujia A et al (2008) Erectile dysfunction as a predictor of cardiovascular events and death in diabetic patients with angiographically proven asymptomatic coronary artery disease. A potential protective role for statins and 5-phosphodiesterase inhibitors. *Journal of the American College of Cardiology* **51**: 1040–4

'Patients with ED should thus be tested for both femoral and carotid atherosclerotic lesions.'

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Women's preference of PDE-5 therapy

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

1 This study aimed to identify whether female partners of men with erectile dysfunction (ED) preferred one PDE-5 inhibitor over another.

2 Men with ED from a total of 100 heterosexual couples were randomly allocated to receive alternate treatment with sildenafil and tadalafil.

3 Female partners were interviewed at baseline, midpoint and at the end of the study, at which time they were asked to state their preferred treatment.

4 Tadalafil was the preferred treatment in 79.2% of women, and sildenafil in 15.6%; reasons for preferring tadalafil included feeling more relaxed and having a more natural sexual experience.

Conaglen HM and Conaglen JV (2008) Investigating women's preference for sildenafil or tadalafil use by their partners with erectile dysfunction: the partner's preference study. *The Journal of Sexual Medicine* **5**: 1198–207

TRANSPLANTATION PROCEEDINGS

ED key factor in quality of life

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

1 Patients with type 1 diabetes and end-stage renal disease undergo simultaneous pancreas and kidney (SPK) transplantation.

2 Although there are many benefits to this treatment, such as improved survival, patient-reported quality of life after surgery has not been thoroughly studied.

3 This study aimed to assess the effect of erectile dysfunction (ED) on quality of life in patients undergoing SPK transplantation.

4 ED was reported in the majority of the 101 patients studied: dysfunction was reported as mild in 18% of patients, mild-to-moderate in 31%, moderate in 21% and severe in 9%).

5 A total of 41% of patients reported improved erectile function after transplantation, 51% reported no change and 7% reported worsening of function.

6 Patients without ED reported the highest score on quality of life; ED was thus identified as a direct determinant of quality of life post-SPK transplantation.

Jürgensen JS, Ulrich C, Hörstrup JH et al (2008) Sexual dysfunction after simultaneous pancreas-kidney transplantation. *Transplantation Proceedings* **40**: 927–30

ATHEROSCLEROSIS

ED associated with atherosclerosis

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

1 Increasing evidence has linked erectile dysfunction (ED) as a predictor of cardiovascular disease.

2 This study aimed to identify the involvement of carotid and femoral atherosclerotic lesions in men with ED.

3 Ultrasonography testing of 239 men with ED showed that presence of atherosclerotic lesions was significantly increased in men with ED compared with control participants (66.4% versus 36.5%); prevalence of femoral atherosclerosis was also increased in men with ED.

4 Men with ED should thus be tested for both femoral and carotid atherosclerotic lesions.

Foresta C, Palego P, Schipilliti M et al (2008) Asymmetric development of peripheral atherosclerosis in patients with erectlie dysfunction: an ultrasonographic study. *Atherosclerosis* **197**: 889–95

UROLOGY

Effects of sildenafil can last longer than four hours

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

1 Sildenafil is used to treat erectile dysfunction (ED) in men; this study aimed to establish the exact duration of responsiveness to sildenafil.

2 Men with mild to moderate ED (erectile function domain score 11 to 25 on the International Index of Erectile Function) were randomly assigned to receive treatment with either 100mg sildenafil or placebo.

3 Participants attempted intercourse 8 hours after treatment in the first phase of the study (week 1–4), and 12 hours after treatment in the second phase (week 5–8); participants were asked to confirm if their erection lasted long enough to successfully have intercourse in order to determine a per-patient-proportion (PPP) treatment success rate.

4 PPP was increased in men receiving sildenafil compared with those receiving placebo in both phase one (76% versus 50%) and phase two (79% versus 52%) of the study.

5 Scores measuring erection hardness were also improved in men treated with sildenafil compared with placebo; consequently, in the 12 hours after treatment, the likelihood of successful intercourse increased three-fold and the likelyhood of a completely hard erection increased four-fold.

6 PPP of successful penetration, overall satisfaction with erection hardness and sexual experience satisfaction were also greater in those receiving sildenafil.

7 Thus, the effects of sildenafil persist much longer than the guideline duration of treatment activity, which is 4 hours.

McCullough AR, Steidle CP, Klee B et al (2008) Randomized, double-blind, crossover trial of sildenafil in men with mild to moderate erectile dysfunction: Efficacy at 8 and 12 hours postdose. *Urology* **71**: 686–92