

Sexual dysfunction

EUROPEAN JOURNAL OF CLINICAL INVESTIGATION

ED associated with infection-induced inflammation

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

1 This study aimed to establish if erectile dysfunction (ED) in men with diabetes is associated with infections of *Chlamydia pneumoniae* or cytomegalovirus, or with low-grade inflammation.

2 Men with type 1 and type 2 diabetes with ED (n=57) and without ED (n=33) enrolled in a case-control study.

3 Measures were taken of serum antibodies against *Chlamydia pneumoniae*, cytomegalovirus and markers of inflammation (including fibrinogen and high-sensitivity C-reactive protein).

4 Adjusted odds ratios for ED in men seropositive for cytomegalovirus IgG, *Chlamydia pneumoniae* IgG and *Chlamydia pneumoniae* IgA were 2.4, 3.0 and 1.8, respectively.

5 Odds ratios for the highest tertiles of high-sensitivity C-reactive protein and fibrinogen concentrations compared to the lowest tertile were 4.3 and 6.6, respectively.

6 Infection with cytomegalovirus or *Chlamydia pneumoniae*, and elevated high-sensitivity C-reactive protein or fibrinogen serum levels were associated with ED in men with diabetes.

7 A modifying effect by the inflammation is suggested as the relationship between cytomegalovirus and ED is markedly present in men with elevated high-sensitivity C-reactive protein and fibrinogen levels.

Blans MCA, Visseren FLJ, Banga JD et al (2006) Infection induced inflammation is associated with erectile dysfunction in men with diabetes. *European Journal of Clinical Investigation* **36**: 497–502

Erectile and endothelial dysfunction in diabetes: Do infections inflame the situation?



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

For a number of years, debate has continued about the link and possible causal relationship between a chronic low-grade inflammation and the development of endothelial dysfunction and atherosclerosis.

Plausible mechanisms have existed whereby an inflammatory insult may make an individual susceptible to vasculopathy – for instance the development of a pro-coagulant state and up-regulation of inflammatory proteins that may trigger altered vascular structure and behaviour. Although a number of primary insults to the development of chronic inflammation have been investigated, the most commonly cited culprits are exposure to *Chlamydia pneumoniae* and cytomegalovirus.

Given that, in diabetes, erectile

dysfunction (ED) is frequently linked to altered penile blood supply or endothelial dysfunction, it is perhaps somewhat surprising that this relationship has, until recently, never been investigated. Thankfully, Blans and colleagues (summarised on left) have attempted to address this question by assessing the links between antibody titres and markers of inflammation (C-reactive protein [CRP] and fibrinogen) in men with diabetes, with and without ED. In their study of 90 men with diabetes, there is a clear association between exposure to *Chlamydia pneumoniae* and cytomegalovirus, and elevated CRP and fibrinogen concentrations.

Although there are some confounding factors in this study which the authors acknowledge, it gives further insight into the potential mechanisms that trigger ED in men with diabetes and lends further support to the school of thought that implicates infection in the development of vascular disease.

THE JOURNAL OF UROLOGY

ED may predict the metabolic syndrome in men with low BMI

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

1 The aim of this study was to investigate if ED is predictive of the metabolic syndrome.

2 Data were used from the Massachusetts Male Aging Study, a population-based prospective cohort observed at three points during 15 years.

3 A total of 928 men without the metabolic syndrome at the first observed point in the study were assessed; 293 men had incident

metabolic syndrome, of whom 56 had ED at baseline.

4 The strongest predictors of the metabolic syndrome were BMI and the presence of one or two conditions constituting the metabolic syndrome definition.

5 The association of ED with the metabolic syndrome was modified by BMI, with an effect of ED in men with a BMI <25.

6 No association between ED and the metabolic syndrome was seen in men with a BMI ≥25.

7 The finding that ED was predictive of the metabolic syndrome only in men with a BMI <25 suggests that ED may be a warning sign in men considered at lower risk for the metabolic syndrome.

Kupelian V, Shabsigh R, Araujo AB et al (2006) Erectile dysfunction as a predictor of the metabolic syndrome in aging men: results from the Massachusetts Male Aging Study. *The Journal of Urology* **176**: 222–6

‘A significant increase in the International Index of Erectile Function’s erectile function domain scores between visits was observed, with 23.6% of men achieving normal erectile function at the end of the study.’

‘Men with erectile dysfunction had improved erectile function with once-daily 5 mg and 10 mg tadalafil, and it was well tolerated.’

EUROPEAN UROLOGY

Sildenafil instruction and dose adjustment has positive effect

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

- The study examined if receiving the maximum dose of sildenafil (100 mg) and re-education on its use could improve the treatment outcome for men with ED who have stopped taking the medication.
- Participants were recruited through newspaper advertisements and referred to five ED centres.
- Most of the 220 participants, aged 27–88 years, reported having limited or no instruction on the drug’s use when sildenafil was first prescribed.
- Full instructions on the drug’s use were given during each visit in which four 100 mg sildenafil tablets were provided; outcome was assessed by the International Index of Erectile Function (IIEF) questionnaire.
- A significant increase in IIEF erectile function domain scores between visits was observed, with 23.6% of men achieving normal erectile function at the end of the study.

Gruenewald I, Shenfeld O, Chen J et al (2006) Positive effects of counseling and dose adjustment in patients with erectile dysfunction who failed treatment with sildenafil. *European Urology* **50**: 134–40

EUROPEAN UROLOGY

Tadalafil improves erectile function in men with ED

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

- Tadalafil has a 17.5-hour half-life so it enables therapeutic plasma levels to be sustained with daily administration.
- A total of 268 men were enrolled to placebo, tadalafil 5 mg and tadalafil 10 mg once daily.
- Men who took placebo, tadalafil 5 mg and tadalafil 10 mg had changes from baseline to endpoint, respectively, of: 0.9, 9.7 and 9.4 for the International Index of Erectile Function’s erectile function

UROLOGY

Topical alprostadil cream improves ED

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

- The aim of this multicentre double-blind parallel-group study was to assess the efficacy and safety of topical alprostadil cream for ED.
- People with an ED score ≤ 25 on the International Index of Erectile Function (IIEF) were randomly assigned 100 μ g, 200 μ g or 300 μ g of topical alprostadil cream (n=434) or placebo (n=434) for use at home for 12 weeks.
- The mean changes from baseline to endpoint in IIEF erectile function domain scores were –0.7 points (placebo), 1.6 points (100 μ g alprostadil), 2.5 points (200 μ g alprostadil) and 2.4 points (300 μ g alprostadil).
- Scores on Sexual Encounter Profile (SEP) questions 2 and 3 improved significantly for all drug treatment groups compared with placebo.
- Topical alprostadil cream improves ED in a broad range of men, including those with diabetes or those who are receiving organic nitrates.

Padma-Nathan H, Yeager JL (2006) An integrated analysis of alprostadil topical cream for the treatment of erectile dysfunction in 1732 patients. *Urology* **68**: 386–91

domain; 11.2, 36.5 and 39.4 for Sexual Encounter Profile (SEP) diary question 2; and 13.2, 45.5 and 50.1 for SEP diary question 3.

- At the end of the study, respectively, 28.3%, 84.5% and 84.6% of men had improved erections, and 8.3%, 51.5% and 50.5% of men had no ED.
- At least 5% of the study population experienced adverse events including dyspepsia and headache.
- Men with ED had improved erectile function with once-daily 5 mg and 10 mg tadalafil; both doses were well tolerated.

Porst H, Giuliano F, Glina S et al (2006) Evaluation of the efficacy and safety of once-a-day dosing of tadalafil 5 mg and 10 mg in the treatment of erectile dysfunction: results of a multicenter, randomized, double-blind, placebo-controlled trial. *European Urology* **50**: 351–9

DIABETIC MEDICINE

ED is characterised by endothelial dysfunction

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

- This study investigated the relative importance of autonomic neuropathy and endothelial dysfunction in men with and without diabetes who had ED, and established if they predict responses to treatment with sildenafil.
- A total of 33 men aged 35–65 years with ED (20 with diabetes and 13 without diabetes), 15 of whom were sildenafil responders and 18 of whom were non-responders, were compared to 30 risk- and age-matched controls (15 with diabetes and 15 without diabetes).
- Autonomic function was assessed by heart rate variation during expiration and inspiration (E/I) and during the valsalva manoeuvre; endothelial function was assessed by changes in brachio-radial and femoro-tibial arterial pulse-wave velocity during reactive hyperaemia.
- Respective changes in pulse-wave velocity in the arm and leg were 0.71% and 3.5% in men with ED and diabetes, 0.7% and 2.4% in men with ED and no diabetes, –0.68 and –1.31 in men with no ED and with diabetes and 7.7% and 7.6% in the control population.
- There was a significantly impaired vascular response in men with diabetes (with and without ED) and the non-diabetes group with ED compared with the non-diabetes control group.
- In men with diabetes, the International Index of Erectile Function questionnaire scores were significantly higher in sildenafil responders than non-responders.
- The response of men with diabetes to sildenafil may be related to the initial degree of ED.

Pegge NC, Twomey AM, Vaughton K et al (2006) The role of endothelial dysfunction in the pathophysiology of erectile dysfunction in diabetes and in determining response to treatment. *Diabetic Medicine* **23**: 873–8