Erectile Dysfunction and Cardiovascular Risk

Prevent the 3 year progression from erectile dysfunction to myocardial infarction

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Introduction

'A man with erectile dysfunction and no cardiac symptoms is a cardiac patient until proven otherwise' (Jackson, 2006) [1]

- Erectile dysfunction is common

- It is an independent risk factor for cardiovascular disease, equivalent to a current moderate smoker [2]

- Men presented with ED for 38 months on average before developing acute chest pain [3]

- **Why?** The penile arteries are smaller in diameter than the coronary arteries

Interesting...so?

- ED is a helpful early warning symptom for future cardiovascular events

- Clinicians can therefore target their advice and treatment to patients to reduce their risk of future myocardial infarcts or strokes

Aim of audit

- The audit evolved during my primary care Foundation placement. A large number of men suffered with erectile dysfunction but symptoms were often only disclosed after direct questioning.

- Treatment without a coded diagnosis was not uncommon.

- The aim of this audit was to standardise and improve the management of ED. A timely cardiovascular risk assessment is essential on initial ED presentation.

Gold standards

- British Society for Sexual Medicine [4]
  - Guidelines on the Management of Erectile Dysfunction 2009

- European Association of Urology (EAU) [5]
  - Guidelines on Male Sexual Dysfunction: Erectile dysfunction and premature ejaculation 2012

Gold standards:

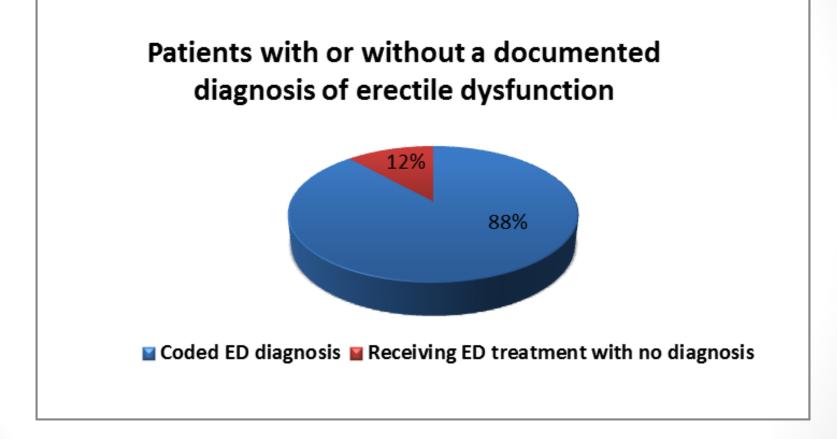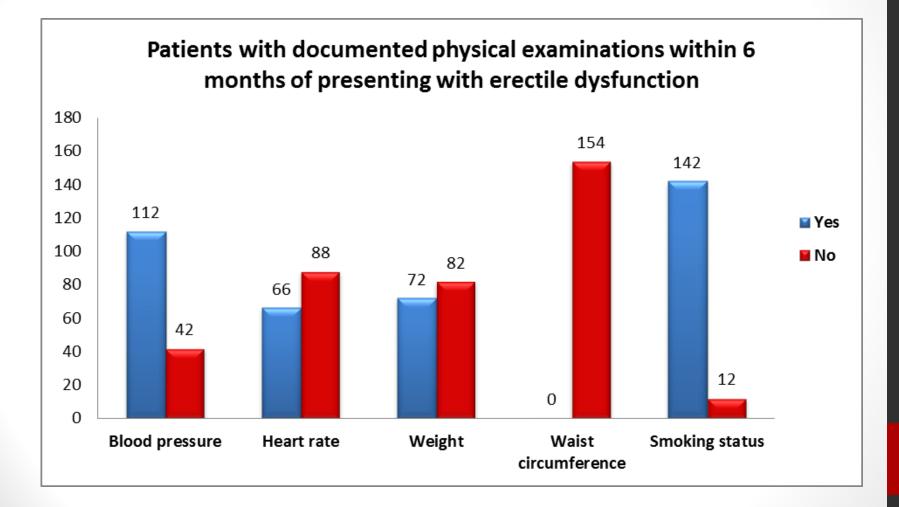| Measurement	Timing in relation to a diagnosis of ED or first PDE5 prescription
• Blood pressure • Heart rate • Waist circumference • Weight • Smoking Status	Within last **6** months
• Serum lipids • Fasting plasma glucose	Within **12** months
• Testosterone o If low, was Prolactin/FSH/LH measured?	Within **6** months
• Cardiovascular risk assessment o (QRisk2, QRisk1, JBS)	Recorded within **12** months
• PSA (if appropriate)	Within **6** months

Method

- GP surgery in Cheltenham
  - 9,485 registered at time of data collection

- Retrospective audit

- 154 patients captured with a:
  - **First** diagnosis of ED or received their **first** Phosphodiesterase type 5 inhibitor prescription [Levitra® (Vardenafil) and Cialis® (Tadalafil) and Viagra® (Sildenafil)]
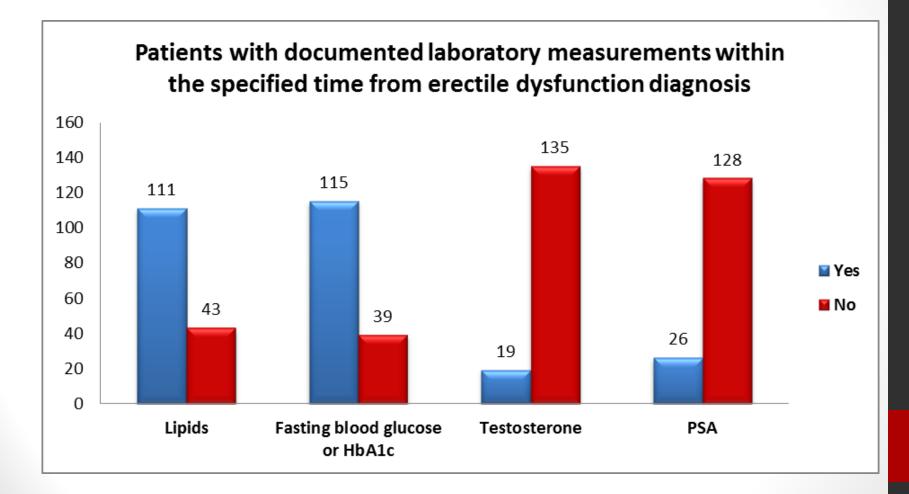
- From January 2008 to 5th September 2012

Results

154 patients with ED symptoms

Patients with or without a documented diagnosis of erectile dysfunction

12%

88%

■ Coded ED diagnosis ■ Receiving ED treatment with no diagnosis

Standards achieved?

Patients with documented physical examinations within 6 months of presenting with erectile dysfunction

Laboratory measurements

Patients with documented laboratory measurements within the specified time from erectile dysfunction diagnosis

Lipids — Yes: 111, No: 43
Fasting blood glucose or HbA1c — Yes: 115, No: 39
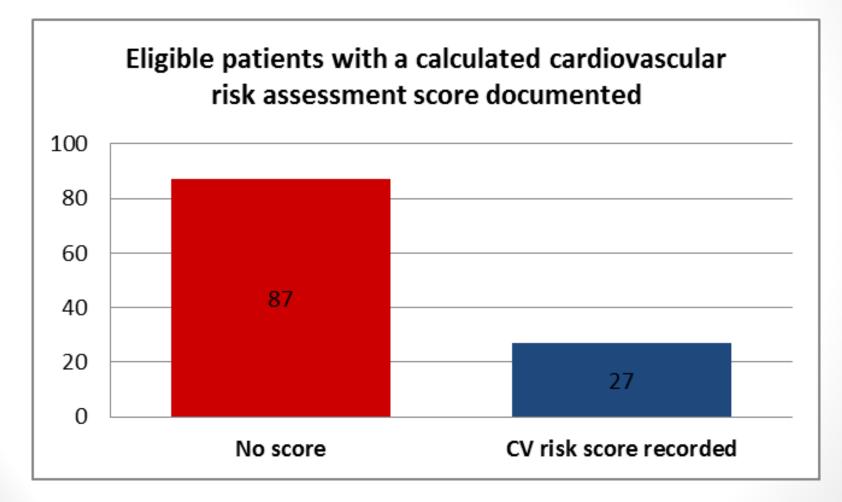Testosterone — Yes: 19, No: 135
PSA — Yes: 26, No: 128

Results

- The majority of patients had the appropriate physical examinations within 6 months of presentation

- No waist circumferences were measured

- Serum lipids and fasting blood glucose were recorded in 72% and 75% cases respectively. Few (12%) had a testosterone levels checked.

- PSA levels are required in selected patients only. This audit did not investigate whether the choice of performing the PSA test was appropriate or not

CV risk

23 out of 154 patients were diabetic (15%), therefore not eligible for a CV risk score

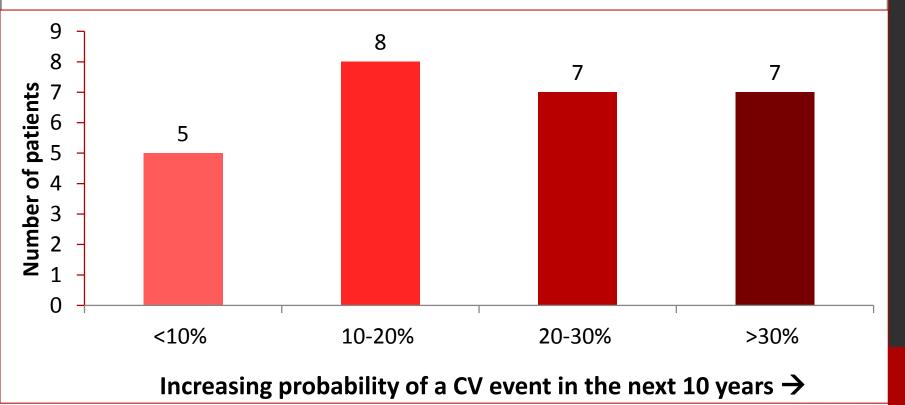Eligible patients with a calculated cardiovascular risk assessment score documented

Results

- Cardiovascular risk scores e.g. QRISK2 were documented in only 27 (24%) of cases

- However half of these patients had greater than 20% probability of a future cardiovascular event within 10 years (next slide)

10 year likelihood of CV event

The probabilty of patients having a cardiovascular event in the next 10 years based on the QRISK2 or JBS score

Increasing probability of a CV event in the next 10 years →

Conclusion

- Men with erectile dysfunction are at high risk of cardiovascular events [6]

  'A man with ED is a cardiac patient until proven otherwise' [1]

- A thorough cardiovascular risk assessment must include:

  - Waist circumference - central adiposity increases the risk of developing diabetes and cardiovascular disease [7]
  - Testosterone levels - hypogonadism is a reversible cause of ED

- A cardiovascular risk score is personalised to each patient. This could motivate some to make lifestyle modifications and comply with drug treatment, thereby reducing their risk of future CV events.

References

1. Jackson G, RC Rosen, RA Kloner, JB Kostis, The second Princeton consensus on sexual dysfunction and cardiac risk: new guidelines for sexual medicine. J Sex Med 2006; 3:28-36; discussion 36.

2. Thompson IM, CM Tangen, PJ Goodman, JL Probstfield, CM Moinpour, CA Coltman, Erectile dysfunction and subsequent cardiovascular disease. Jama 2005;294:2996-3002.

3. Montorsi et al. Erectile dysfunction prevalence, time of onset and association with risk factors in 300 consecutive patients with acute chest pain and angiographically documented coronary artery disease Eur Urol 2003; 44:360-5

4. Hackett G et al. British Society for Sexual Medicine Guidelines on the Management of Erectile Dysfunction. *BSSM* 2007. Available from: http://www.bssm.org.uk/downloads/BSSM_ED_Management_Guidelines_2009.pdf (accessed: September 2012).

5. European Association of Urology. Guidelines on Male Sexual Dysfunction: Erectile dysfunction and premature ejaculation. *EAU* 2012. Available from: http://www.uroweb.org/gls/pdf/13_Male%20Sexual%20Dysfunction_LR%20II.pdf (accessed: September 2012).

6. Cottrell A, Gillatt D. Early detection of erectile dysfunction may prevent CVD. The Practitioner. Jan 2008; 252 (1702):21-26

7. Cut the Waist. 2011. The Origins and limitations of BMI [Accessed : September 2012] Available from: http://www.cutthewaist.com/bmi.html