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:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Timing in relation to a diagnosis of ED or first PDE5 prescription</th>
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</thead>
<tbody>
<tr>
<td>- Blood pressure</td>
<td>Within last 6 months</td>
</tr>
<tr>
<td>- Heart rate</td>
<td></td>
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<tr>
<td>- Waist circumference</td>
<td></td>
</tr>
<tr>
<td>- Weight</td>
<td></td>
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<tr>
<td>- Smoking Status</td>
<td></td>
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<tr>
<td>- Serum lipids</td>
<td>Within 12 months</td>
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<tr>
<td>- Fasting plasma glucose</td>
<td></td>
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<tr>
<td>- Testosterone</td>
<td>Within 6 months</td>
</tr>
<tr>
<td>- If low, was Prolactin/FSH/LH measured?</td>
<td></td>
</tr>
<tr>
<td>- Cardiovascular risk assessment</td>
<td>Recorded within 12 months</td>
</tr>
<tr>
<td>- (QRisk2, QRisk1, JBS)</td>
<td></td>
</tr>
<tr>
<td>- PSA (if appropriate)</td>
<td>Within 6 months</td>
</tr>
</tbody>
</table>
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
Standards achieved?

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

- Blood pressure: Yes - 112, No - 42
- Heart rate: Yes - 66, No - 88
- Weight: Yes - 72, No - 82
- Waist circumference: Yes - 154, No - 0
- Smoking status: Yes - 142, No - 12
Laboratory measurements

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

<table>
<thead>
<tr>
<th>Test</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipids</td>
<td>111</td>
<td>43</td>
</tr>
<tr>
<td>Fasting blood glucose or HbA1c</td>
<td>115</td>
<td>39</td>
</tr>
<tr>
<td>Testosterone</td>
<td>135</td>
<td>19</td>
</tr>
<tr>
<td>PSA</td>
<td>128</td>
<td>26</td>
</tr>
</tbody>
</table>
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.
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 probability of patients having a cardiovascular event in the next 10 years based on the QRISK2 or JBS score

- <10%: 5 patients
- 10-20%: 8 patients
- 20-30%: 7 patients
- >30%: 7 patients

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


