Erectile dysfunction increases cardiovascular risk: time to reduce it

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As erectile dysfunction is an independent marker of increased cardiovascular disease, a cardiac assessment and aggressive risk reduction therapy are essential for all men with erectile dysfunction, even if they have no cardiac symptoms.

### Table 1. Relative risk of increased events and mortality: erectile dysfunction (ED) versus no ED

<table>
<thead>
<tr>
<th>Pooled end points</th>
<th>Meta-analysis 1&lt;sup&gt;6&lt;/sup&gt; (n=92 757)</th>
<th>Meta-analysis 2&lt;sup&gt;7&lt;/sup&gt; (n=36 744)</th>
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</thead>
<tbody>
<tr>
<td>Cardiovascular disease mortality</td>
<td>1.44*</td>
<td>1.48*</td>
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<tr>
<td>Myocardial infarction</td>
<td>1.62*</td>
<td>1.46*</td>
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<tr>
<td>Stroke</td>
<td>1.39*</td>
<td>1.35*</td>
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<tr>
<td>All-cause mortality</td>
<td>1.25*</td>
<td>1.19*</td>
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<sup>*</sup>All significant except cardiovascular disease mortality.

The Princeton III consensus recommendations are in keeping with the general philosophy that ED is a marker of increased CVD risk and ‘ED may allow identification of at-risk men who require further cardiovascular evaluation’. A multidisciplinary collaborative approach is encouraged and the screening net should be as wide as possible.

### REDUCING THE RISK

Erectile dysfunction shares modifiable risk factors with CAD and generalised vascular disease, including hypertension, diabetes, hyperlipidaemia, obesity, lack of physical exercise, cigarette smoking, poor diet, excess alcohol intake and psychological stress.<sup>3,8</sup> Of importance is the recognition that ED is an independent marker of increased CVD over and above conventional risk factors.<sup>11</sup>

In a systematic review and meta-analysis including six clinical trials, lifestyle intervention along with CV risk factor reduction was shown to benefit ED.<sup>9</sup> Given that modifying and reducing risk factors for CVD helps prevent a cardiac event occurring, the overlapping benefit of risk reduction relating to ED and CVD is self-evident.

All men with ED should undergo a thorough medical assessment, first to

Go to the Trends website to see Mike Kirby discussing the link between erectile dysfunction and cardiovascular disease: www.trendsinurology.com/videos
establish whether it is ED or premature ejaculation or decreased libido, or a combination. From a cardiovascular viewpoint, the medical assessment should include measuring blood pressure, fasting glucose or HbA1c and lipids, waist circumference, thyroid function and testosterone (before 11.00am). Testosterone deficiency is another unrecognised common condition, for example, affecting up to 50 per cent of men with type 2 diabetes, and should be routinely assessed in men with ED.

With regard to establishing the presence of silent CAD in men with ED, stress testing on exercise or by pharmacology will identify only lesions influencing flow (>50–70 per cent stenosis). As ED predicts acute coronary syndromes and CVD mortality, identifying the subclinical plaque vulnerable to rupture (<50 per cent stenosis) led to evaluation by multidetector computer tomography (MDCT) of the coronary arteries. This is a minimally invasive outpatient procedure but does involve X-rays (chest X-ray = 0.02mSv, MDCT = 5–20mSv, coronary calcium scoring = 1–2mSv).

Coronary calcium scoring uses a lower dose of radiation and can refine risk in men with an equivocal Framingham risk score, but the problem is that not all lesions are calcified, especially in younger men, in whom coronary computed tomography angiography (CCTA) may be more appropriate.

In a comparison of risk markers for improvement in cardiovascular risk, CCTA–MDCT provided superior discrimination and risk classification compared with other risk markers. As ED is an independent marker of increased risk in those men identified using conventional risk markers (intermediate 5–20 per cent and high >20 per cent estimated risk over 10 years) but who have no cardiac symptoms, their risk could be most accurately refined using CCTA. In addition, men aged 30–60 years with ED and no cardiac symptoms are at substantially increased 10-year risk and therefore should be considered for CCTA (Figure 1). Invasive coronary angiography should then be considered when non-invasive evaluation suggests significantly increased CVD risk.

**CONCLUSION**

All men with ED and no cardiac symptoms need a detailed cardiac assessment as well as lifestyle advice regarding weight and

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**Figure 1. Assessment of cardiovascular disease (CVD) risk in men with erectile dysfunction (ED). CCTA, coronary computed tomography angiography**

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exercise. ED should be considered a ‘cardiac equivalent’ and aggressive risk reduction therapy initiated. It is time to turn evidence into action.

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REFERENCES