key points

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Erectile dysfunction may be a clinical manifestation of endothelial dysfunction, affecting penile circulation. This may be part of a generalised vascular disorder that leads to myocardial infarction, angina and stroke. As the penile arteries are smaller in diameter than the coronary or carotid arteries, the clinical manifestation, ED, may appear before symptoms of CVD or cerebrovascular disease.

Cigarette smoking may double the likelihood of developing ED (from a lifetime prevalence of 14% in non-smokers to 34% in smokers). Diabetes and raised fasting blood glucose levels have been associated with ED. There is a significantly raised risk of ED in patients with established CVD. Similarly, the development of ED may predate a cardiovascular event, and serve as a warning for the future development of CVD.

History taking should not only focus on cardiovascular risk factors that may contribute to the development of ED, but also aim to elicit other causes, whether psychological, psychosocial or physical. Blood pressure measurement and examination of the genitalia should be carried out and, if hormone therapy may be indicated, digital rectal examination. Patients should have a fasting plasma glucose measurement and testosterone levels should be measured if hypogonadism is suspected, or if the patient needs reassurance.

As the cause of ED can be multifactorial, both organic and psychogenic aspects should be addressed. If the predominant cause is psychogenic, the patient should be referred to a psychosexual counselling service. Lifestyle modification, such as weight loss and increased physical activity, has been shown to improve ED symptom scores and should be encouraged.

Oral therapy with a PDE5 inhibitor (sildenafil, tadalafil or vardenafil) may be initiated. PDE5 inhibitors are safe and effective drugs. However, they are absolutely contraindicated in patients taking nitrates or with hepatic impairment. PDE5 inhibitors are also contraindicated in patients who have recently had a stroke, myocardial infarction, retinal disorder or hypotension. If PDE5 inhibitors are ineffective or contraindicated alprostadil may be used either transurethrally or via intracavernosal injection. Some patients may benefit from the use of a vacuum device to obtain an erection. Patients for whom drug therapy is unsuccessful may consider insertion of a malleable or inflatable penile prosthesis.