Hypertension and sexual dysfunction

Ker JA, MBChB, MMed(Int), MD, Deputy Dean and Senior Specialist
Department of Internal Medicine, Faculty of Health Sciences, University of Pretoria
Correspondence to: James Ker, e-mail: james.ker@up.ac.za
Keywords: hypertension, sexual dysfunction, antihypertensive medication, phosphodiesterase-5 inhibitors

 S Afr Fam Pract 2012;54(2):117-118

Introduction

Hypertension is a major independent cardiovascular risk factor, and also a marker of survival risk. Quality of life during the treatment of hypertension is an important health issue, as one in every five treated patients with hypertension will discontinue their therapy due to side-effects.[1] Discontinuation of therapy, and poor compliance with therapy, will eventually lead to a poorer outcome. The appearance of treatment-related side- effects may actually make patients feel worse than they did prior to treatment, when most hypertensive patients are asymptomatic. Sexual dysfunction is a potential side-effect of therapy, and may lead to poor therapy compliance.

Sexual dysfunction

Sexual dysfunction is defined by the World Health Organization as the various ways in which an individual is unable to participate in a sexual relationship as desired.

Erectile dysfunction was formerly viewed as a psychological entity and dismissed as such, but currently, it is considered to be a disease of vascular origin. Sexual dysfunction has been called: "the 'prima ballerina' of hypertension-related, quality-of-life complications".[2]

Currently, erectile dysfunction is also considered to be an independent predictor of future cardiovascular disease, as it may be viewed as a manifestation of vascular dysfunction, and endothelial dysfunction underlies this symptom.

Sexual dysfunction in the general population

Erectile dysfunction, defined as the inability to have and maintain an erection that is adequate for intercourse, is increasingly more common with advancing age. In a study of health professionals, erectile dysfunction occurred in four per cent of men under the age of 50, 27% in those between 50-59 years of age, and in 40% of men in the age group 60-69 years.[3] The frequency was significantly higher if those men who were hypertensive, diabetic, smokers, or obese, or taking medications such as antidepressants and antihypertensives. The Massachusetts Male Ageing Study, the first longitudinal, community-based epidemiological study of 1 290 men, reported a prevalence of 52% of erectile dysfunction.[4]

Female sexual dysfunction is a much more complex situation, and remains understudied. Female sexual dysfunction may be more prevalent than men: 43% vs. 31% as reported in 1999.[5]

Sexual dysfunction in patients with hypertension

The relationship between essential hypertension and sexual dysfunction raises the following question: is the hypertension the cause of the sexual dysfunction, or are the drugs that are used to treat hypertension, the cause? This question remains only partially answered.[2]

Essential hypertension is widely accepted as a risk factor for erectile dysfunction. The relative risk of erectile dysfunction in hypertensive men vs. normotensives ranged from 1.3-6.9.[2] In a sample of 634 Greek men, erectile dysfunction was twice as common in hypertensives compared to normotensives (35.2% vs. 14.1%).[2]

Duration and severity of hypertension, as well as antihypertensive therapy, contribute to erectile dysfunction.

Very little data exist on the role of smoking, alcohol intake, and level of physical activity, regarding erectile dysfunction in patients with essential hypertension. The little data that does exist on female hypertensives reveal that hypertension per se contributes to sexual dysfunction. A study suggested that there is sexual dysfunction in 42.1% of hypertensive women, compared to 19.4% in normotensive women. The

odds ratio of this is 3.2.[2] Increasing systolic blood pressure, advancing age and beta-blocker use were significant predictors of sexual dysfunction in women.

Antihypertensive medication and sexual dysfunction

The old-generation type of antihypertensive drugs such as central acting beta blockers, e.g. methyldopa, and diuretics, can all negatively affect sexual function. The new-generation antihypertensives, including calcium-channel blockers and angiotensin-converting enzyme (ACE) inhibitors, seem to have a neutral effect.

Angiotensin-receptor blockers may actually have a beneficial effect on sexual function.[1] Beta-blocker use is associated with an increased risk of sexual dysfunction, and this even extends to some, though not all, of the newer-type beta blockers, but precise data on this are lacking.

Diuretics, including spironolactone, are one of the most implicated classes in sexual dysfunction, even when used as adjunct therapy. There are remarkably very little data on combination antihypertensive therapy which is problematic, as the majority of patients will eventually have to take combination therapy.

Phosphodiesterase-5 inhibitors

Phosphodiesterase-5 (PDE-5) inhibitors are effective for treating erectile dysfunction. Usually, use of these drugs leads to clinically insignificant reductions in blood pressure, but it can have deleterious effects on patients taking complicated, multidrug antihypertensive regimens. For the majority of such patients, the blood pressure reduction will be minimal, and quite safe. The use of alpha-blockers may lead to a significant interaction with PDE-5 inhibitors, while that of organic nitratres, either short-acting, or long-acting in patients with ischaemic heart disease, is a contraindication for the use of PDE-5 inhibitors.

Cardiac risk from sexual activity in patients with hypertension

Sexual activity increases the risk of a cardiac event, because of stimulation of the sympathetic system. This may not be true in patients with a low absolute cardiovascular risk, such as controlled hypertension, with few other risk factors. High-risk cardiovascular patients may have a 10-fold increased risk of having a cardiac event during sexual intercourse, and for the two hours immediately after.[2] Thus, patients with untreated, poorly controlled hypertension and malignant hypertension, are regarded as high-risk cardiovascular patients.

Conclusion

Both male and female sexual dysfunction are frequent in the general population.

Essential hypertension relates to sexual dysfunction, as sexual dysfunction is more common in essential hypertension per se. A significant proportion of hypertensive patients experience sexual problems that impair their quality of life.

The older type of antihypertensives all negatively influence sexual activity, while the newer type of drugs have a neutral effect.

Changing the antihypertensive drug class may improve sexual dysfunction.

PDE-5 inhibitors can safely be administered to hypertensives who are taking antihypertensive drug therapy. Caution is needed with alpha-blockers. Patient who are taking nitrates should not be prescribed a PDE-5 inhibitor.

Erectile dysfunction per se is considered to be an independent predictor of cardiovascular risk, and such patients should be evaluated accordingly.

References

1. Llisterri JL, Lozano Vidal JV, Aznar Vicente J. Sexual dysfunction in hypertensive patients treated with Losartan. Am J Med Sci .2001;321(5):336-341.
2. Manolis A, Doumas M. Sexual dysfunction: the "prima ballerina" of hypertension-related quality-of-life complications. J Hypertens. 2008;26(11):2074-2084.
3. Bacon CG, Mittleman MA, Kawachi I, et al. Sexual function in men older than 50 years of age: results from the health professionals follow-up study. Ann Intern Med. 2003;139(3):161-168.
4. Feldman HA, Goldstein I, Hatzichristou DG, et al. Impotence and its medical and psychosocial correlates: results of the Massachusetts Male Aging Study. J Urol.1994;151(1):54-61.
5. Laumann EO, Paik A, Rosen RC, et al. Sexual dysfunction in the United States: prevalence and predictors. JAMA. 1999;281(6):537-544.