Hypertension and Diabetes: bad companions

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Diabetics are more likely to suffer from hypertension than non-diabetics. Factors that may contribute to the increased prevalence of hypertension in diabetics include:
(i) Obesity
(ii) Insulin resistance
(iii) Renal disease (i.e.diabetic nephropathy).

More than two thirds of diabetic patients have hypertension with a resultant sevenfold increase in mortality. Hypertensive diabetics with nephropathy have a 37-fold increase in mortality! The major problem in diabetes, especially type 2 diabetes, is an increase in cardiovascular disease. Hypertension is also an important contributor to cardiovascular disease in diabetics. ***(SA Fam Pract 2004;46(9): 14)***

MANAGEMENT APPROACH:

BASIC CONCEPT:
Multifactorial intervention is necessary for optimal results.

1. More aggressive (intensive) treatment is necessary
The goal BP should be: < 130/80 mmHg. In general, for every 10 mmHg reduction in systolic blood pressure, there will be a reduction of 12% of any complication related to diabetes, including retinopathy and renal disease. To achieve this blood pressure goal will require multiple drug antihypertensive therapy; the majority of patients will require two or more drugs.

2. Drugs used are the same as for hypertension in non-diabetics
Thiazide-type diuretics are beneficial in diabetics, either alone or as part of a combined regimen. Therapy with an ACE-Inhibitor is also an important component of treatment regimens in diabetics, as are Angiotensin-Receptor Blockers (ARBs). Beta-blockers, especially β_1-selective agents, are beneficial as part of combination therapy (their value as monotherapy is not clear). Calcium channel blockers are useful, particularly as part of a combination regimen to control blood pressure to goal.

3. Blocking the Renin-Angiotensin System [RAS]
ACE-inhibitors and ARBs are necessary in diabetic nephropathy to delay the progression of nephropathy (microalbuminuria; proteinuria). More data is available on the usefulness of ACE-inhibitors in type 1 diabetics and on the usefulness of ARBs and type 2 diabetes with nephropathy. The ideal blood pressure for nephropathy patients excreting more than 1 gram of protein per day is $^{125}/_{75}$ mmHg.

4. Other risk factors to be treated simultaneously:
A. Statin therapy: The LDL goal for diabetics is < 2.6 mmol/l. Both the *British Heart Protection Study* (BHPS) and the *Collaborative Atorvastatin Diabetes Study* (CARDS) showed marked reductions in mortality with the routine use of statins. Diabetes mellitus is currently viewed as a coronary heart disease equivalent.
B. Aspirin
C. Intense glycaemic control (Hb_1AC < 7%)
D. Smoking cessation.

See CPD Questionnaire p.47

References

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