What's new in research that should change the way we detect and treat hypertension?

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The management of hypertension remains central to the preventive strategies employed in general practice. BEACH data confirms it is the commonest management problem in this environment.[1] The pre-eminence of hypertension is in some ways historic as it was the first modifiable cardiovascular disease (CVD) risk factor with effective treatment. Recent research has established that hypertension should not be managed in isolation and that therapeutic interventions need to be based upon global or absolute risk of a subsequent cardiovascular event. Therefore attention to other CVD risk factors that contribute to this risk (eg. smoking status, dyslipidaemia, renal impairment, diabetes, physical inactivity) is mandatory. Current Australian guidelines reflect this truism.[2]

The detection of high blood pressure (BP) in the community remains problematic. Continuing vigilance through opportunistic and structured screening in general practice remains paramount. The diagnostic criteria for hypertension are based on sound trial evidence but are arbitrary. For example the HOPE study demonstrated the benefit of the use of ramipril in the management of high risk patients even when their BP was in the normotensive range.[3]

It is recommended that BP measurements be taken outside of the practice setting, either at home or by ambulatory BP monitoring (ABPM), as these are more closely related to target organ damage (eg. left ventricular hypertrophy or hypertensive retinopathy) and cardiovascular events than clinic recordings. Up to 30% of patients have BP lower, and 10–20% higher, on ABPM than clinic measurements.[2] Ambulatory BP monitoring also allows nocturnal recordings which may be the strongest predictor of cardiovascular events.

Absolute risk is the risk expressed as a percentage of a patient having an adverse cardiovascular event (ie. myocardial infarction, stroke, angina or other manifestation of CVD) over a specified period of time, usually 5–10 years. Patients who have clinical conditions such as CVD, diabetes, or renal disease, or evidence of target organ damage, are at high or very high risk of a CVD event and warrant aggressive therapy. It is difficult to estimate absolute risk without the aid of a suitable calculator in patients who have not had a previous CVD event.[4] Such patients require assessment of all their CVD risk factors with the use of a risk calculator such as the New Zealand Risk Calculator or AbsoluteRisk.[5,6] Aboriginal and Torres Strait Islander populations have an increased risk for CVD and at an earlier age than the general population. It is therefore important to both identify patients who belong to these groups, and to screen and manage them vigorously.

The original recognition of the adverse effects of high BP was established with diastolic recordings. Isolated systolic hypertension – largely a condition of the elderly related to increased stiffness of major blood vessels – was not given due deference with rules such as allowance for '100 mmHg plus your age'. Such advice has been shown to be false. Systolic BP is a stronger and more consistent predictor of cardiovascular risk than diastolic BP. The major driver of CVD absolute risk is age, and therefore the aged are the most likely beneficiaries from treatment.

The management of hypertension remains based on behavioural change. Lack of attention to this promotes resistance to drug therapy necessitating more drug agents and higher doses. It also leads to less than optimal reduction in adverse cardiovascular risk. For example, obesity is a risk factor for hypertension, CVD, and diabetes; the latter a potent driver of adverse absolute CVD risk. Effective nondrug therapies include diet (low sodium, alcohol moderation), moderate exercise, and weight loss where appropriate.

Recent studies have sought to establish if newer agents have superiority over older agents to justify their higher costs. The two most noted contemporary studies are ALLHAT and ANBP2.[7,8] Both were large prospective clinical trials with major adverse cardiovascular events and mortality as endpoints. The latter was conducted entirely in Australian general practice. Both seemingly had conflicting results; ALLHAT recommending diuretics and ANBP[2] ACE inhibitors. However, both had significant differences in study design and the populations studied. For this reason the current National Heart Foundation guidelines recommend initiation with any of the five major drug groups based on contraindications and indications related to comorbidity.[2]

Conflict of interest: none declared.

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