

The NICE hypertension guideline update 2006: a welcome revision

Hypertension affects up to 40% of the adult population (Wolf-Maier et al, 2003). In this situation, any guidance which improves outcomes and cost-effectiveness is particularly important, especially when increases in stroke, coronary artery disease and heart failure resulting from inadequate blood pressure control are themselves major consumers of NHS costs.

A glut of guidelines

Guidelines for the treatment of hypertension have been produced in abundance including those from the National Institute for Health and Clinical Excellence (NICE), the British Hypertension Society (BHS), the European Society of Hypertension, the World Health Organization, and the United States Joint National Committee on Prevention, Detection, Evaluation and Treatment of Hypertension. Unfortunately differences between these guidelines often lead to confusion and inadequate care based on the principle of following the lowest common denominator, particularly in cost-conscious health economies.

In 2004, the BHS issued its fourth guideline for the management of hypertension (BHS-IV) (Williams et al, 2004). A few months later, NICE issued its clinical guideline 18 for management of hypertension in adults in primary care (NICE, 2004). The remit of the two guidelines differed – the BHS advice included global cardiovascular risk assessment and advice on use of aspirin and lipid lowering, as well as treatment of special patient groups such as patients with diabetes, ethnic patients and pregnant women. NICE restricted its advice to uncomplicated adult patients in primary care. Both groups claimed to have based their advice on systematic reviews and meta-analysis. BHS-IV was advised by the experience and consensus of experts along with results of the meta-analysis of the Blood Pressure Lowering Treatment Trialists Collaboration (Turnbull, 2003), while NICE used its usual method of independent in-house systematic review, meta-analysis and cost-effectiveness analysis.

BHS-IV advised the use of a regimen based on an angiotensin-converting enzyme (ACE) inhibitor (or possibly beta-blocker) in younger patients and calcium-channel blockers or diuretics in those older than 55 years and in Afro-Caribbeans. NICE favoured a more conservative option of a diuretic in most – predominantly for cost-effective reasons – with the option of considering a beta-blocker in younger people. It did recognize that these agents might together increase the risk of diabetes and that beta-blockers might be disadvantageous in patients with asthma or decompensated heart failure, and in some ethnic groups. ACE inhibitors or calcium-channel blockers were only suggested as third line alternatives.

BHS-IV had already noted a weakness of evidence for the use of beta-blockers especially after the publication of the LIFE (Losartan Intervention for End Point Reduction in Hypertension) study (Dahlöf et al, 2002), which had shown the superiority of losartan over atenolol in hypertensive patients with left ventricular hypertrophy. In LIFE, the losartan-based regimen was associated with a 13% reduction in the combined endpoint of cardiovascular death, stroke or myocardial infarction, 25% fewer strokes and a 25% reduction in the incidence of new-onset diabetes. In the diabetic sub-group there was an impressive 39% reduction in all-cause mortality compared with the atenolol-based regimen.

By comparison, NICE had by consensus, but not by unanimity, declined to listen to the opinion of the academic hypertension community, preferring its own, independent, in-house process which is designed to exclude bias from vested interests. The result was two major models of care – the BHS-IV guideline, followed predominantly by secondary care and GP enthusiasts, and the NICE (2004) guideline, which more conservative and ‘cost-conscious’ groups felt obliged to observe. The BHS hoped that it would be better able to influence subsequent NICE guidelines but the next revision was not destined until 2009.

New research

The ASCOT (Anglo-Scandinavian Cardiac Outcomes Trial) which commenced in 1997 had already caused a stir when its lipid-lowering arm was stopped prematurely because of the demonstrated superiority of outcome of hypertensive patients taking 10 mg atorvastatin *vs* placebo. The blood-pressure lowering arm was similarly stopped nearly 2 years early because of significant differences in cardiovascular events and total mortality.

In ASCOT (Sever et al, 2003), the calcium-channel blocker/ACE inhibitor regimen reduced all-cause mortality by 24%, stroke risk by 23%, coronary artery events and procedures by 16%, heart failure by 16%, new-onset renal impairment by 15% and new-onset diabetes by 30% when compared with the beta-blocker/diuretic regimen previously favoured in the 2004 NICE guideline.

This trial in particular, which had been conceived by BHS members and which was the largest European hypertension trial, precipitated a premature partial update of the NICE guideline. This brings them into line with BHS-IV and provides a unified guideline, which has the backing of experts in the field and satisfies the NICE guideline process.

The new NICE guideline (NICE, 2006) now advises the use of ACE inhibitors (or angiotensin receptor blockers if intolerant to ACE inhibitors) in patients younger than 55 years and calcium-channel blockers in patients aged 55 years or older and in black patients. ACE inhibitors can be added to either the diuretics or calcium-channel blockers at stage two, and all three can be used in combination, if necessary.

Beta-blockers are no longer advised as first-line therapy but are recognized as having a place in women of child-bearing potential (because of the risks associated with ACE inhibitors and the lack of benefit of diuretics in hypertension during pregnancy), in patients with ‘increased sympathetic drive’ and those who cannot take ACE inhibitors or angiotensin recep-

tor blockers. It acknowledges the avoidance of the combination of beta-blocker with thiazides to reduce the risk of development of diabetes and that there is no absolute reason to change beta-blockers in those whose blood pressure is well controlled on them, as well as those who have coronary artery disease.

It makes no effort to differentiate between the various beta-blockers nor to mention the enormous prognostic benefit of some beta-blockers in patients with heart failure (who may also have a hypertensive history). The benefit of beta-blockade in hypertensives with migraine is not mentioned nor when arrhythmias may co-exist although it was perhaps beyond the remit of the guideline to consider these situations. They may possibly be inferred under the cover of 'compelling reasons' for beta-blockade.

Cost effectiveness

NICE has simultaneously published an assessment of cost impact of the new guideline demonstrating the potential benefit of the newer and more effective regimen. This suggests that adoption of the new regimen in England would increase prescribing costs by £58.5 million but that savings through the benefits of full implementation would result in a net saving of £221.9 million per annum.

It is regrettable that some media reaction has predictably suggested that patients should have their beta-blockers withdrawn because they 'increase the risk of stroke,

heart attacks and diabetes' (MacRae, 2006) rather than allow physicians to make decisions based on whole patient benefit. It is also a pity that the NICE process, while laudable in its aim to remain independent, failed to heed the advice of some experts in its first hypertension guideline, resulting in a degree of media hysteria and patient anxiety. Nevertheless the NICE (2006) hypertension guideline is in itself a welcome and timely update which will be of benefit to all. **BJHM**

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KEY POINTS

- Confusion and conflicting advice, particularly from the British Hypertension Society and National Institute for Health and Clinical Excellence (NICE) guidelines for hypertension, have been resolved following analysis of recent trials.
- The new unified NICE guideline now provides clear evidence-based advice.
- Angiotensin-converting enzyme inhibitors have been clearly accepted as first-line therapy in younger patients and calcium channel blockers or diuretics in older patients and Afro-Caribbeans with a combination of drugs recommended for those resistant to monotherapy.
- It is reassuring that the more potent and effective therapy has now been shown to be cost-effective.