NICE guideline to revolutionise our views on hypertension

Prof Eoin O’Brien outlines how the National Institute for Health and Clinical Excellence guidelines will change the management of hypertension irrevocably

The new NICE guidelines advocates ambulatory blood-pressure monitoring over traditional methods

CLINICAL

Hypertension

The National Institute for Health and Clinical Excellence (NICE) has just published a draft for consultation of its 2011 guideline for the Clinical Management of Primary Hypertension in Adults. The NICE guidelines are recommendations for the care of patients with a variety of illnesses, so that best clinical practice is achieved in primary and secondary care in the NHS.

The stated mission of NICE is “to base [its] clinical guidelines on the best available research evidence, with the aim of improving the quality of healthcare”. To achieve this, NICE uses predetermined and systematic methods to identify and evaluate the evidence relating to specific review questions. This body has gained such respect and scientific credibility over the years that its guidelines influence national policy on healthcare delivery across the world.

Consequently, the hypertension guideline is going to have a profound effect on how high blood pressure will be diagnosed and managed in primary care in Ireland in the future. Introducing the need for change, the guideline reminded us that at least one quarter of the adult population of the UK has hypertension, and that this figure rises to more than 50 per cent in people over the age of 60 years. Moreover, as the demographics of the UK shift towards an older, more sedentary and obese population, the prevalence of hypertension and its requirement for treatment will continue to rise.

We are also reminded that high blood pressure is the major cause of stroke and that bringing blood pressure down once it is present prevents this catastrophic complication. These admonitions apply equally to Ireland. Indeed, the Irish population aged 65 years or older has been estimated to have grown by around 13 per cent in the period 1996-2011, to represent in total about 14 per cent of the general population.

Nearly 25 per cent of persons in this generation and over 80 years, the majority of whom will have isolated systolic hypertension.

Conventional BP measurement

High blood pressure continues to be diagnosed in primary care and in hospital clinics using the traditional technique of measuring a mercury sphygmomanometer and stethoscope (more lately automated devices), despite the fact that this technique has been shown to be grossly inaccurate.

Since Riva-Rocci and Korotoff gave us the technique of conventional blood pressure measurement (CBPM) over a century ago, we have relied on the men on the moon, encircled Mars, invented the automobile and aeroplane and, most importantly, revolutionised the technology of science with the microchip.

Why, we might ask, has medicine ignored scientific evidence and technological advances for so long so as to perpetuate a grossly inaccurate measurement technique in both clinical practice and hypertension research?

It is a salutary thought that if (as conservative estimates show) white-coat hypertension is present in 20 per cent of the population when blood pressure is measured conventionally in primary care, and if masked hypertension is present in 50 per cent of patients whose BP is measured in similar circumstances, it follows that hypertension is being misdiagnosed in as many as a third of all patients attending for routine blood pressure measurement.

NICE recommends ABPM for diagnosis and treatment of hypertension. Now all must change! The NICE guideline confirms the inaccuracy of CBPM: “These findings suggest that the current practice of using a series of CBPM alone for the diagnosis of hypertension leads to inaccurate diagnosis and that ‘the current practice of using CBPM to define hypertension will lead to drug treatment being offered to a substantial number of people who are normotensive’.”

The guideline has no hesitation in stating emphatically that 24-hour ambulatory blood pressure monitoring (ABPM) “should be implemented for the routine diagnosis of hypertension in primary care”.

Implementation of NICE recommendations

The NICE guideline readily admits that implementation of a recommendation — which means in effect that some 11 million patients with high blood pressure in the UK will have to be re-measured — will necessitate reconfirm the diagnosis, but also for the follow-up assessment of treatment efficacy — will present ‘considerable challenges’.

Some of the problems recognised by NICE are the training of healthcare professionals, the provision of sufficient numbers of validated ABPM devices and the need for staff to be “trained in their use and the interpretation of data generated by the reports”.

The same problems face clinical practice in Ireland but, unlike the UK, ABPM has become increasingly available in primary care, often with the support of the pharmaceutical industry. Indeed, Ireland was the first European country to show that ABPM could be used effectively in primary care to achieve better blood pressure control in patients with hypertension.

The RAMELIER study in 2006 showed that ABPM allowed patients with inadequate blood pressure control to be identified and, in some cases, prevented unnecessarily commencing antihypertensive medication, and that blood pressure control was improved in those managed with ABPM compared with conventional measurement.

This led the authors of the RAMELIER study to conclude that “ABPM appears to have a significant impact on decision-making of general practitioners and on the medical management of patients with hypertension in the community.” The RAMELIER II Study using the dash dietary reporting system and central ABPM analysis to assess the feasibility of ABPM in more than 500 primary care practices is presently being analysed.

Although general practitioners in Ireland use ABPM more than their colleagues in the UK, the reality is that the NHS has an ABPM system — has been pioneered in Ireland and is presently in use in over a third of primary care practices across the country, as well as in a number of countries around the world (see figure).

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First steps

One of the first steps towards making ABPM available would be to provide reasonable reimbursement to general practitioners for performing on-line analysis with an interpretative report and interpreted data for the clinical and research use.

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Ambulatory blood pressure monitoring shows white-coat hypertension (175 mmHg/95 mmHg) with otherwise normal 24-hour systolic blood pressure (SBP; 133 mmHg daytime, 119 mmHg nighttime) and optimal 24-hour diastolic blood pressure (DBP; 71 mmHg daytime, 59 mmHg night time), Normal dipping pattern

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