

● Hypertension

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 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 reminds us at the outset 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 to normal 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 107,771 persons 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 group will be 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



The new NICE guideline advocates ambulatory blood-pressure measurement over traditional methods

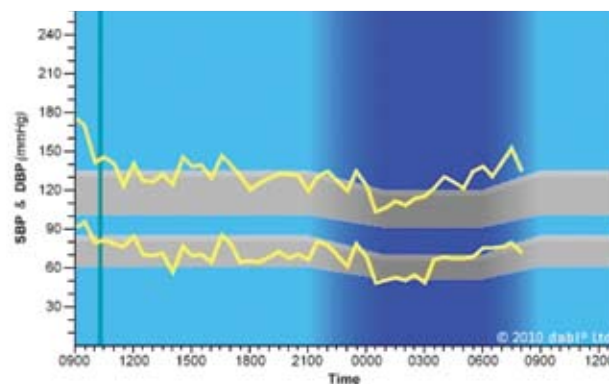
traditional technique of measurement with a mercury sphygmomanometer and stethoscope (or more lately with automated devices), despite the fact that this technique has been shown to be grossly inaccurate.

Since Riva-Rocci and Korotkoff gave us the technique of conventional blood-pressure measurement (CBPM) over a century ago, we have landed 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 10 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



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 nighttime). Normal dipping pattern

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 therefore in stating emphatically that that 24-hour ambulatory blood pressure measurement (ABPM) "should be implemented for the routine diagnosis of hypertension in primary care".

To be specific, the guideline stipulates: "If the first and second BP measurements taken during a consultation are both higher than 140/90mmHg, of-

fer 24-hour ambulatory blood pressure monitoring to confirm the diagnosis of hypertension."

The authors recognise, however, that this recommendation will have profound implications for the diagnosis of hypertension and that it must be based on very robust evidence. NICE undertook, therefore, the most detailed cost-benefit analysis ever conducted for ABPM and this showed clearly that the use of ABPM would result in substantial savings to the NHS.

"This analysis suggests that ABPM is the most cost-effective method of confirming a diagnosis of hypertension in a population suspected of having hypertension based on a CBPM screening measurement >140/90mmHg... This conclusion was consistent across a range of age/gender stratified

subgroups." The recommendation of NICE will be applied, quite rightly, to practice in Ireland. We should anticipate, therefore, the consequences for clinical practice.

Implementation of NICE recommendations

The NICE guideline readily admits that implementation of a recommendation – which means in effect that some 13 million patients with high blood pressure in the UK will have to be offered ABPM not only to confirm 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 RAMBLER study in 2006 showed that ABPM allowed patients with inadequate blood pressure control to be identified and, in some cases, prevented from 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 RAMBLER 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 RAMBLER II Study using the dabl interpretive reporting system and central analysis to assess the feasibility of ABPM in more than 100 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 new Minister for Health and Children, **Dr James Reilly**, will have to make funding available for the widespread use of the technique in primary care.

However, he should not see this as a deterrent, but rather welcome it as a means for preventing stroke and heart attack, with the potential for enor-

mous savings in the future.

If blood-pressure control was achieved in Ireland, some 5,000 strokes per annum could be prevented! However, the daunting reality is that less than a third of patients on treatment have their blood pressure controlled.

First steps

One of the first steps towards making ABPM available would be to provide reasonable reimbursement to general practitioners for performing ABPM. The Minister would also be well advised to examine the potential for making ABPM available in pharmacies – a practice that is growing in popularity in Ireland.

Finally, the Minister must seize the opportunity to establish a national registry of ambulatory blood pressure by using systems that are capable of providing on-line analysis with an interpretative report and storage of data for demographic and scientific research. Such a system for ABPM – the dabl 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).

This system provides an interpretative report, thereby removing the need for a physician to report on the ABPM, a summary statistical analysis, a trend report allowing assessment of the efficacy of treatment and, importantly, the data recorded can be stored centrally and analysed for demographic analysis and scientific research.

A further consideration that should exercise the new Minister is the potential for engaging patients with high blood pressure in the management of their own illness. It is indeed remarkable how much more involved patients become in managing a chronic illness, such as hypertension, when they are actively informed as to the state of their blood pressure control and this can be readily done by providing patients with an ABPM report that clearly states the success or otherwise of treatment and management strategies.

If the new Minister for Health wishes to make a major and immediate impact on the nation's health, the NICE guideline provides the scientific and economic justification for making ABPM available to all patients with hypertension or suspected hypertension. The computerised methodology for doing so is available and has been tried and proven.

What is needed is an imaginative vision that could dramatically improve the cardiovascular health of the nation by reducing stroke and the other cardiovascular consequences of high blood pressure.

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