Ignoring the evidence

Despite recent advancements, Prof Eoin O'Brien examines the distance yet to travel in terms of managing high blood pressure

CONSIDER the following state of affairs. In 1896, the Italian physiologist Riva-Rocci introduced a method for measuring systolic blood pressure using an occluding arm cuff and a mercury manometer. A decade later, Nicolai Korotkoff modified the technique so as to be able to measure diastolic as well as systolic blood pressure using a stethoscope to auscultate the sounds that now bear his name.

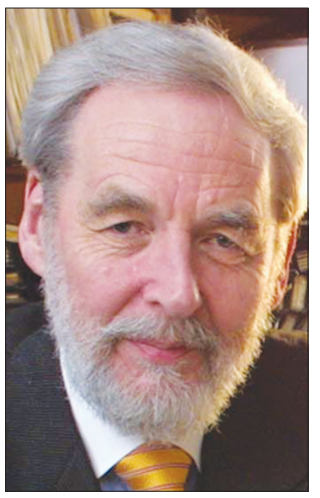
Despite a steady flow of articles in the literature (beginning with a paper by von Reckinghausen as early as 1901) demonstrating the inaccuracy of the method, it remains the method of choice for measuring blood pressure in clinical practice 110 years later.

Quite apart from its inherent inaccuracies, the technique cannot identify white coat hypertension (individuals with elevated office blood pressures and normal daytime blood pressures), and masked hypertension (individuals with normal office blood pressures and elevated daytime blood pressures) — each of which have no distinguishing clinical characteristics, and may *each* occur in some 15 per cent of the population.

Is it not a salutary thought that hypertension is being misdiagnosed in as many as a third of all patients attending for routine blood pressure measurement. This is how the age of science deals with the deadliest of all risk factors — hypertension — the major cause of 10,000 strokes annually in Ireland.

None of this would matter much if we had no alternative for blood pressure measurement, but since Riva-Rocci and Korotkoff gave us the technique of so-called conventional measurement, we have landed men on the moon, encircled Mars, invented the motor car and aeroplane and, most importantly, revolutionized the technology of science with the microchip. Will future generations of medical scientists not look back at our persistence in using a grossly inaccurate measurement technique as being akin to diagnosing diabetes by dipping a finger in the urine and tasting for sweetness?

I first used ambulatory blood pressure measurement (ABPM)


Prof Eoin O'Brien

in 1979, and wrote then that the "development of a cheap and accurate means of ambulatory recording would have a considerable impact on the diagnosis of borderline hypertension and the assessment of the efficacy of treatment".

This forecast has been slow to materialize, but the evidence that ABPM is indispensable to good clinical practice has been growing steadily, and during the past decade the information that can be derived from ABPM has surprised even the most ardent supporters of the technique. ABPM is now accepted as being indispensable to good clinical practice, yet it is used but rarely. (Here it has to be acknowledged that Ireland is much ahead of many of its European partners, most notably the UK.)

The advantages for ABPM are many. First and foremost, the technique simply gives more measurements than conventional measurement, and the real blood pressure is reflected more accurately by repeated measurements; ABPM provides a profile of blood pressure away from the medical environment, thereby allowing identification of individuals with a white coat response, or masked hypertension, who are in need of careful management; ABPM shows blood pressure behaviour over a 24-hour period rather then giving a snapshot of blood pressure performed with an inaccurate technique under artificial circumstances so that the efficacy of antihypertensive medication over a 24-hour period becomes apparent, rather than relying on one or a few conventional measurements confined to a short period of the diurnal cycle; ABPM can identify patients with abnormal patterns of nocturnal blood pressure — dippers and non-dippers, extreme and reverse dippers, and the morning surge — all of which are associated with high risk; the technique can demonstrate a number of patterns of blood pressure behaviour relevant to clinical management — isolated systolic and isolated diastolic hypertension, post-prandial hypotension, autonomic failure, etc.

Finally and importantly, evidence is now available from longitudinal studies that ABPM is a much stronger predictor of cardiovascular morbidity and mortality than conventional measurement — in other words, ABPM identifies patients with hypertension (and subjects whose blood pressure is normal) who are at risk from future cardiovascular events. Moreover, the evidence is growing that nocturnal blood pressure measured by ABPM may be the most sensitive predictor of cardiovascular outcome, from which it follows that the measurement of night-time blood pressure should be an important part of clinical practice.

So the evidence is there and it clearly demonstrates that no individual in Ireland should be labelled hypertensive without having ABPM, that those ultimately diagnosed as hypertensive with ABPM should be assessed at intervals with ABPM, and that those for whom treatment is prescribed should have regular ABPMs to ensure that adequate blood pressure control is being achieved over the 24-hour period.

If this were done, stroke could be reduced by at least 50 per cent, together with a significant reduction in other cardiovascular consequences of misdiagnosed or poorly controlled hypertension. Can we not do this over the next decade? ■

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Spurred on by progress

Public Health Specialist Dr Joe Barry believes we can look back on several health gains when the whistle is blown on the past decade — but extra time is still needed in some areas

I HAVE just finished watching Spurs on the opening day of the Premiership; outplaying their opponents and still losing because of sloppy defending. So, for us long-suffering Spurs fans, nothing much has changed over the past 10 years. But what about public health? What have the past 10 years brought? Well, quite a lot.

If you were watching Spurs' opening Premiership match in 1997 in a pub, you would certainly have inhaled a lot of second-hand smoke over the 90 minutes of the game. And if you had a few pints during the course of the game, you could have been sure that you would not be breath tested by the Gardaí on your way home.

The passing of legislation in relation to drink driving and second-hand smoke (colloquially referred to as 'the smoking ban') represent two major public health achievements of the past decade; the latter has become a prototype for many other countries and has had worldwide consequences.

Like most important public health initiatives, much background preparatory work had to be done behind the scenes to put these issues on the public and political agenda. In 1989 the IMO passed the following motion: 'That the Government ban smoking in all public places.' This was followed in 1995 by the following motion: 'In light of the available evidence on the harmful effects of environmental tobacco smoke, the IMO calls on the Minister for Health to introduce new legislation to extend the restrictions on smoking in the workplace.'

Politicians are slow to bring in legislation for the public health, but once done, the reaction is nearly always positive and in the recent general election campaign these public health measures were promoted as examples of good government — and rightly so. Getting research evidence into clinical practice is good medicine. Likewise, getting epidemiological research into legislation is good public health practice.

We live in a much more globalized world than we did in 1997, and some of the consequences of this have impacted on public health activities in Ireland. SARS came in 2003 and avian flu is threatened. Structures to address imported infectious diseases have been strengthened, in Ireland and at EU level.

The National Disease Surveillance Centre (now the Health Protection Surveillance Centre) was established in 1998 and the European Disease Surveillance Centre was set up in 2005. These initiatives have improved international surveillance and communication. However, with the expanded list of notifiable infectious diseases, capacity for control has not kept pace with capacity for surveillance. Hepatitis C became notifiable in 2004 and there are 1,000 notifications annually in Dublin alone. Our capacity to identify hepatitis C in healthcare workers is patchy and further Hep C difficulties may await us in the future as a consequence.


Dr Joe Barry

HIV in Ireland in the past decade has changed. Formerly, it was an infection of injecting drug users and gay men. With immigration from high endemicity countries, this changed. In contrast to hepatitis C, antiviral treatment for HIV is well tolerated and it is to be hoped that in future Hep C treatment will match HIV treatment in terms of effectiveness, toleration and patient acceptability.

Another manifestation of globalization is the ready availability of illicit drugs. In 1997, the Government had just embarked on a National Drugs Strategy. It was mostly a Dublin-based opiate strategy and it has been relatively successful; drug-related HIV is less common and about two-thirds of opiate users are availing of organized healthcare.

Now, however, we have a different set of problems requiring different approaches. Illicit drug use is common throughout the country and cocaine is much more easily available. Local and regional drugs task forces have been established and different government departments are making a concerted attempt to deal with the issue.

Much play is made of lifestyle influences on health. Tobacco and illicit drugs have been mentioned above and in each case a structure is in place to address these problems. Other lifestyle factors such as alcohol and obesity are causing health and social problems, so let us hope we do not need to wait another 10 years before these are addressed.

Another public health agenda item where little progress has been made is in relation to inequalities in health status.

We have new evidence published since 1997 on socio-economic gaps in mortality, morbidity and access to health services. The burgeoning of private healthcare facilities does not augur well for equality of treatment or outcomes. This is a matter of political priority but politicians will give people what they want. The evidence from the recent election was that no party was prepared to raise taxes for public services. As you sow, so shall you reap.

I started with Spurs; I'll finish with Arsenal. They won their opening game with a last-minute goal; nothing really changes. ■

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