

Hypertension Symposium 2004

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KEYWORDS ACE inhibitors, diabetes, Framingham, hypertension, primary-secondary care interface, salt

LIST OF ABBREVIATIONS ACE inhibitors (ACEI), blood pressure (BP), General Medical Services (GMS), general practitioner (GP), high density lipoprotein (HDL), low density lipoprotein (LDL), myocardial infarction (MI), pulse pressure (PP)

DECLARATION OF INTERESTS No conflict of interests declared.

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Hypertension is the most common medical condition affecting adults in the UK. It is one of the key preventable risk factors for stroke and heart attack and is an important contributor to heart and kidney failure. The day's proceedings were in association with the Royal College of General Practitioners with an emphasis on the importance of the interface between the two Colleges.¹ The first session addressed the latest guidelines governing management of hypertension, including a look at diabetes and its associated problems. The second session overviewed recent clinical research. Session three treated us to some clinical case scenarios highlighting some of the difficulties faced in diagnosis. The final session was a lively debate, the motion being that young people with hypertension do not merit treatment.

Professor Lewis Ritchie (Professor of General Practice at the University of Aberdeen and Honorary Consultant in Public Health), posed the rather provocative question 'Do we really need secondary care in hypertension management?'² He outlined the principles underpinning hypertension management, namely desirability, affordability, and achievability. Simply put, the treatment of hypertension is a financially judicious move in terms of prospective morbidity and mortality, the standards for which are set by national guidelines. Professor Ritchie alluded to the new GP (GMS) contract with, for the first time, financial rewards (for GPs) for maintaining standards of patient care; with respect to hypertension this being percentages of hypertensive patients achieving adequate control.

The issue of achievability was highlighted with two very interesting pieces of evidence. First, better BP control is achieved with three drugs at half-standard doses than any one at maximum dose. Second, there may be benefits to nurse-led care in the primary care sector. The London to south Midlands multi-modal study conducted in the late 1980s and early 1990s followed

2,500 hypertensive patients in the community who attended nurse-led, computer-assisted screening centres and found that one of the most significant independent predictors of achieving BP control was the nurse involved. Professor Ritchie concluded that BP control can be achieved by GPs treating the commoner, less complex individuals, and implementing nurse-led models, and hospitals dealing with the more difficult cases.

The management of hypertension in diabetes was presented by Professor John Cockcroft (Professor of Cardiology, University of Wales College of Medicine) who is attributed with setting up the first patient self-referral hypertension clinic in the UK. He emphasised the importance of PP over isolated systolic or diastolic pressures on cardiovascular risk: small changes in PP equate to more significant changes in cardiovascular risk. Professor Cockcroft went on to highlight impressive evidence for what is widely known, diabetics have accelerated and premature ageing of their vasculature. An introduction to pulse wave analysis, as a means of assessing 'arterial stiffening', which is accelerated in diabetes, was also outlined. The clear take-home message was that once an individual is diagnosed with diabetes they should be regarded as being of high cardiovascular risk. The risk of a type 2 diabetic suffering an MI is similar to an individual without diabetes who has had a first MI.

The highlight of the day for me was a presentation on the integral role of salt on high BP by the eloquent Graham Macgregor (Professor of Cardiovascular Medicine, St George's Hospital, London, England). It is always interesting to hear of the non-pharmacological management of common medical conditions especially when the interventions proposed are (ostensibly) simple to implement, financially worthy, and backed with such convincing evidence. Of course, telling an audience that only 5% of them do not have current evidence of

atherosclerosis and that 4 out of 10 are going to die of a cardiovascular event compels one to sit up and listen, if only to glean some simple dietary modifications that will ensure they are no longer members of such high risk groups! The implication from Professor Macgregor was that salt reduction should be, for the most part, a public health issue, with interventions introduced centrally on a national scale without the necessity of public involvement. The statistics supporting these measures are impressive: only 15% of the salt consumed in the UK is added in cooking or at the table, with the majority being hidden in food and outwith our control; bread is the single largest source of salt intake in the UK! Our current average daily salt intake is about 12g. Reducing this by 50% would lead to an estimated 24% reduction in the UK stroke rate, and an 18% reduction in deaths from ischaemic heart disease, a total of 36,550 deaths prevented per annum. Finally, another convincing argument for including more fruit in our diet: the potassium content of fruit has an effective hypotensive effect due its promotion of natriuresis.

In Session 2, David Webb (Professor of Clinical Pharmacology, Edinburgh University, Edinburgh, Scotland) talked about isolated systolic hypertension, the contribution of arterial stiffness and the links between stiffness and endothelial dysfunction.³ Professor Webb's talk included some examples of scientific papers published on the topic early in the last century, including one from the *Lancet* in 1922, which impressed upon us that theories on age-related stiffening of the arteries are not new.

The Robert W Philip endowed lecture in memory of the distinguished physician within the field of tuberculosis was delivered by Professor Daniel Levy (Director of the National Heart, Lung and Blood Institute's Framingham Heart Study, Massachusetts, USA).⁴ The Framingham study has proved seminal in our understanding of cardiovascular disease. Before Framingham, the notion that scientists could identify and individuals could modify 'risk factors' (a term coined by the study) tied to heart disease, stroke, and other diseases was not part of standard medical practice.

Historically the study was designed by the US Public Health Service in response to a mounting epidemic of cardiovascular disease beginning in the 1930s, and becoming the nation's number one killer by the late 1940s. Researchers wanted to learn which biological and environmental factors were contributing to such a rapid rise of cardiovascular death and disability. They settled on a prospective epidemiological approach, a novel idea at the time, designed to learn how and why those who developed heart disease differed from those who escaped it. Fifty years ago, the town of Framingham was selected by the US Public Health Service as the study site, and 5,209 healthy residents between 30 and 60 years of age, both men and women, were enrolled as

the first cohort of participants. It was the first major cardiovascular study to recruit women participants.

The Framingham study has provided a number of landmark discoveries within the field of cardiovascular disease. Before the study smoking was not regarded as a bona fide hazard in the development of heart disease. It was soon discovered that not only is risk of MI and sudden death linked to the number of cigarettes smoked, but smoking cessation rapidly diminishes this risk. Today, managing cholesterol levels, high BP and diabetes to mitigate cardiovascular disease is fundamental to good medical care. Before Framingham, the role of serum cholesterol in the evolution of cardiovascular disease was not widely understood or accepted by physicians as a major contributing factor. The study established a relationship between the levels of cholesterol and risk for disease. Further, the study established a strong positive association of LDL cholesterol with coronary heart disease and the protective effect of HDL levels.

Session 3 consisted of three case studies that exemplified problems that arise in hypertension management, whether it be in diagnosis or actual effective intervention. Key points to take away were:

- Hypokalaemia secondary to thiazide diuretics is uncommon. Individuals with treatment-resistant hypertension with a hypokalaemia attributed to thiazides should be investigated for a secondary cause of their hypertension;
- In treatment-resistant hypertensives the issue of non-compliance should be better explored and we, as doctors, do this poorly.
- As a consultant always listen to your registrar!

The final session of the day was kicked off with a lively debate, the motion being 'The consequences of risk assessment: we should not treat young people with hypertension'. Arguing in favour was Dr Paul Padfield⁵ (Consultant Endocrinologist, Western General Hospital, Edinburgh, Scotland) and he was countered by Tom MacDonald⁶ (Professor of Clinical Pharmacology, University of Dundee, Dundee, Scotland). A pre-debate vote heavily weighted against the motion was little changed by Dr Padfield's arguments. Even references to Professor MacDonald as the devil incarnate could do little against the charismatic Professor MacDonald and his verbal acrobatics.

The day ended with a guest speaker from the University of Paris, Professor Joel Ménard who talked comparatively of the DIABHYCAR and Micro-HOPE studies, pointing out that when it comes to the cardiovascular protective benefit of ACEI, it is likely that high doses of these drugs are needed to obtain mortality and morbidity benefits and therefore further work is

merited in this field including the combination of ACEI and angiotensin-II receptor blockers.⁶

This was a high-quality symposium, well attended by both primary and secondary care physicians and health care workers, with GPs making up 50% of the audience.

Although one left the day assured of the importance of hypertension treatment both locally, in primary and secondary care, and nationally with the clear potential for new advances, this was coupled with a sense of unease in translating this effectively into patient care given the high levels of socio-political lassitude.

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