Treatment of Hypertension to achieve Blood Pressure Control

A report from the GP Seminar during Irish Heart Week
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Hypertension continues to be the number one risk factor for stroke and a major risk factor for heart disease, so it is not surprising that the Irish Heart Foundation (IHF) have made it a priority in their education campaigns since 2004. The global burden of blood pressure related disease is clearly shown by recent published figures where 54% of stroke and 47% of ischaemic heart disease are attributable to high blood pressure. Only about half this burden is in people with hypertension; the remainder is in those with lesser degrees of high blood pressure.[1]

In 2008 the theme of the Irish Heart Foundation public campaign is "love your heart ….lower your blood pressure" the well known celebrities Ben Dunne and 'Twink' have been helping with the campaign. Professor Alice Stanton, Chair of the Irish Heart Foundation Council on Blood Pressure stressed that it is also important to engage with healthcare professionals in order that treatment goals for hypertension be reached. Prof Stanton stressed that the primary objective of the IHF is to reduce BP levels and to reduce the burden of BP-related disease in Ireland.

Professor Ivan J Perry, of the Department of Epidemiology & Public Health, UCC explained that raised blood pressure is responsible for around 7 million deaths a year and is the number one killer worldwide, ahead of tobacco at just under 5 million and high cholesterol at 4.5 million.[2] This alarming figure is set to rise significantly by 2025.[3]

Prof Perry presented data from SLÁN 2007. A scientifically representative random sample of over 10,000 people aged 18+ who were interviewed in their own homes, by experienced researchers from the Economic and Social Research Institute (ESRI). The survey showed that 34% of people who had high blood pressure were not on any medication and 18% of hypertensive patients were on medication but were not controlled to the recognized level of 140/90mmHg. These are particularly worrying statistics since a prospective studies collaboration showed that the earlier we can decrease blood pressure, the larger the percentage decrease in the risk of stroke. [4] See table 2

Age at risk:	20 mmHg ↓ SBP
80-89	33% ↓ risk
70-79	50% ↓ risk
60-69	57% ↓ risk
50-59	62% ↓ risk
40-49	64% ↓ risk

Table 15: Percentage of respondents with normal or high blood pressure and whether or not they were taking anti-hypertensive (blood pressure) medication

	NORMAL BLOOD PRESSURE	HIGH BLOOD PRESSURE (HYPERTENSIVE)		
	(and not on anti-hypertensive medication)	On anti-hypertensive medication		Not on anti-hypertensive medication
	<140/90mmHg %	<140/90mmHg %	>140/90mmHg %	>140/90mmHg %
Total	40	8	18	34
Gender				
Men	33	7	20	40
Women	47	10	16	27
Age group				
45-64	47	6	13	34
65+	26	13	28	33
Social class				
1-2	40	5	20	35
3-4	40	11	16	33
5-6	36	7	18	39
Unc*	48	10	17	25

Unc* = Unclassified

Prof Perry explained that there is no lower threshold level of blood pressure, at least down to 115/75 mmHg (i.e., within the range commonly occurring in Western populations), below which lower blood pressure is not associated with lower vascular mortality. There are also no important sex differences in the relative effects of blood pressure on vascular mortality. Prof Perry stressed that detection and treatment of hypertension is critical and will need to form a core component of the CVD strategy over the next 10 years. Also important to this debate are population strategies to reduce the prevalence of obesity, promote exercise, and reduce alcohol consumption and salt intake these are equally critical and will need more than token gestures from governments.

Professor Eoin O'Brien, President of the Irish Heart Foundation and Professor of Molecular Pharmacology, UCD tackled the subject of BP measurement and 24 hour ambulatory blood pressure measurement (ABPM). Prof O'Brien explained that white coat hypertension can occur in 20-25% of patients while masked hypertension can occur in 10-15%. One of the ways to identify these patients is to use ABPM. Prof O'Brien stated that ABPM is 'indispensable' to good clinical practice; there are references to this in all the guidelines yet none of the guidelines say that ABPM should be used. Recently the ESC guidelines have introduced the concept of self BP measurement, Prof O'Brien questioned whether a patient would take a number of readings each day for 7 days and suggested that ABPM over a 24 hour period was a better alternative for the patient and probably produced better diagnostic results. Night time hypertension is a greater predictor of risk for CV events including stroke and ABPM can pick this up in susceptible patients.

Prof O'Brien explained that Ireland was the first European country to show that ambulatory blood pressure measurement (ABPM) using the dabl

interpretive reporting and analysis software programme could be used effectively in primary care to achieve better BP control in patients with hypertension. The RAMBLER study showed that ABPM allowed patients with inadequate BP control to be identified and in some cases prevented from unnecessarily commencing on antihypertensive medication, and that BP 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'. Prof O'Brien went on to explain that the Spanish Society of Hypertension has taken the RAMBLER programme and gone one step further in developing a nationwide project based on electronic transfer of data to promote the use of ABPM in primary care settings. The Spanish study involved 1,126 physicians contributing over 20,000 ABPM records, the study has demonstrated that there was a wide discrepancy between clinic and ambulatory BPs, particularly in patients with severe hypertension at the office; that high risk patients had the most unfavourable ABPM levels when compared with low-to-moderate risk patients, in spite of receiving much more antihypertensive treatment; and that high-risk hypertensive patients showed a high prevalence of a nocturnal non-dipper pattern.

Prof O'Brien concluded that that if the present situation is allowed to continue, there is likely to be an epidemic of stroke in Ireland with serious consequences for patients and stroke care facilities. This has been outlined in the Irish Heart Foundation National Audit of Stroke Care and concludes that stroke care facilities are inadequate for the future. Prof O'Brien said 'We need to be innovative and turn our attention, as the Spaniards have done, to reversing the present ambivalent attitude to the management of hypertension so as to obtain control of BP, and to document that we are doing so by using ABPM and central data collection'. Up to 5,000 stokes per annum can be prevented if action is taken.

Dr Mark Caulfield, Co-chair, British Hypertension Society Educational Programmes and Professor of Clinical Pharmacology, Centre for Clinical Pharmacology, William Harvey Research Institute, St. Bart's and the London School of Medicine presented data from the UK and showed that rate of CVD in the UK is slowly declining. Despite this CVD still accounts for 80,000 deaths before 65 yrs, 20% of male premature death and 11% of female premature deaths each year. Dr Caulfield explained that boroughs just a few miles apart can have large variations in life expectancy e.g. there are eight stops on the Jubilee line on the London underground between Westminster and Canning Town, as one travels east, each stop represents an average of 1 year shortened lifespan. The cost of CVD in the UK is approximately 26 billion/year, around £434 per UK resident. Coronary Heart Disease accounts

for £7.9 billion and there is a £3.1 bn cost to the economy, and a £1.25 bn cost to social care. Dr Caulfield explained that in order to try and tackle this problem a new GMS contract has been negotiated. The contract has been designed by clinicians and managers and rewards outcomes (good for clinicians) and also rewards service delivery (good for DOH). The contract also rewards patient sensitivity, has an investment plan and recognises the HR challenge. The contract consists of core payments, quality payments (Performance based) and enhanced Services (Service Development). The quality payments are based on evidence-based interventions and these interventions must be measurable. There must also be a demonstration of change in a reasonable period of time. The contract covers a number of clinical areas that is to be expanded. Dr Caulfield explained that primary care has been given the resource needed to tackle Chronic Disease Management and is being rewarded for organisation and achievement. "We still treat each patient as an individual but I do expect to see major changes in CVD mortality and morbidity. These changes have made CVD prevention in UK one of the best in the world". Explained Dr Caulfield.

Prof. John Feely, Consultant in Clinical Pharmacology and General Medicine, Trinity Centre, St. James Hospital, Dublin, looked at the evidence from recent studies as to how to achieve best blood pressure control.
Prof Feely suggested that recent trials have focused on establishing the "best drug" for hypertension. The ALLHAT study suggests that a diuretic is as good as an ACE-Inhibitor, and a CCB is better than Doxazocin. Prof Feely explained that care is needed in interpretation of trial results as the population studied in ALLHAT is not the same as the population in primary care. The LIFE and ASCOT studies together with meta-analysis have dismissed the use of Atenolol as a first line agent. Whereas the use of amlodipine has been rehabilitated by the VALUE and ASCOT studies.

The results from the LIFE and ONTARGET studies gave support for use of ARB's and the HYVET study shows the benefit in treating "healthy" >80 yr with hypertension with results that show a decrease in stroke and heart failure. With so much data released in recent years it is not surprising that there are differences in interpreting the same data. The European Guidelines suggest treating all patients with BP>140/90mmHg with a wide choice of agents, including vasodilating beta-blockers while British Cardiac Society guidelines limit the use to higher risk patients favouring ACE inhibitors in the younger patient and CCB/Diuretic in older(>55y) patients. Prof Feely stressed that all guidelines are based on recent studies and recognise BP control as the primary objective. The guidelines have lower targets for CHD/Renal and Diabetic patients. Prof Feely concluded by stating that most patients will need two or more agents to control their blood pressure. The combination products in the market place do not appear to have any increased side effect profile. Both the US and EU guidelines stress the importance of combination therapy,

this was also demonstrated in an Irish study that showed 60% of patients reached target blood pressure with a 'polypill' approach compared to 15-45% with a single agent.[5]

Summary

- Hypertension is a major risk factor for heart disease and stroke- detection and treatment is critical to reducing overall risks.

- Irish Heart Foundation's Irish Heart Week 2008 **' Love your heart….lower your blood pressure'** focused on creating blood pressure awareness- knowing your numbers and keeping them down.

- Uncontrolled hypertension remains a problem in Ireland. Recent studies show that 60% of people over the age of 45 years have high blood pressure.

- Ambulatory blood pressure monitoring should be used to detect white coat and masked hypertension. Ambulatory blood pressure monitoring has a significant impact on decision-making and medical management of patients with hypertension.

- In the UK GMS contract negotiation is used to tackle costs of cardiovascular disease, including those to the economy and social care.

- Combination therapy is important in achieving blood pressure control, as outlined in the EU guidelines.

The Irish Heart Foundation's Council on Blood Pressure is working to reduce the burden of blood pressure related diseases in Ireland through awareness, advocacy and education. The Irish Council of General Practitioners is represented on the Council on Blood Pressure.

References:

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