



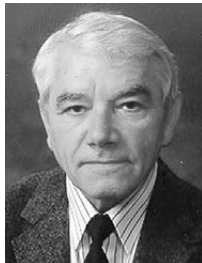
WHL · NEWSLETTER

News from the World Hypertension League (WHL).
A division of the International Society of Hypertension, and in official relations with the
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No. 94, April 2004

Editorial

Is there a reason to mourn the departure of the mercury sphygmomanometer?



Dr. J. George Fodor

I do not intend to argue whether the mercury sphygmomanometer should remain the principal tool of blood pressure measurement or not. This instrument, after being used for a century, will disappear from clinical practice in the next five years. It is already

banned in the Netherlands and in Scandinavia. The UK and the USA will soon follow suit. In fact, major health centers in the USA have already abandoned the use of mercury sphygmomanometers, including the Johns Hopkins Hospital in Baltimore, the Massachusetts General in Boston, the Mayo Clinic in Rochester and many others.

The reason why this instrument will disappear is simple: mercury is toxic—it can cause a variety of neurological disorders. Occupational health studies have ascertained the effects of mercury on the central nervous system and on the deterioration of psychological functioning. The 130 grams of mercury contained in each of these instruments represents an environmental hazard. Although this fact is recognized, there has been and still is a widely held belief that these instruments are accurate and superior to aneroid and electronic blood pressure measuring devices. Although all textbooks repeat the mantra about instrument error, observer error and patient factors, the *extent of observer error* using mercury sphygmomanometer is rarely stated.

More than 20 years ago, the late Professor Geoffrey Rose of London (UK) performed an experiment where 8 well-trained obstetricians

continued on page 2

Report from Member Leagues

The Egyptian Hypertension Society National Guidelines for Management of Hypertension

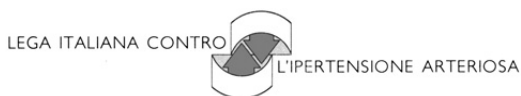
Need for National Guidelines

Last year the Egyptian Hypertension Society (EHS) reported a new set of guidelines for management of hypertension in Egypt and developing countries. Hypertension guidelines from rich industrial countries may not be applicable to developing and economically disadvantaged communities. The high prevalence rates of poverty and illiteracy and the inadequate health care system with limited access to medical insurance will limit resources and make optimal management difficult. Resources more than science therefore, will dictate the type of care that can be provided. According to World Bank data, the GNP per capita for the year 1995 varied around the world from as low as \$260 in Nigeria, \$340 in India, \$790 in Egypt to \$26980 in USA and \$39640 in Japan. Another reason for the need of national guidelines are the racial, genetic, life style and environmental differences. Genetic differences between white Caucasian, African, Hispanics, south Asian and Chinese are present with respect to mechanisms of hyper-

continued on page 3

Contents	Page
– Editorial	
Is there a reason to mourn the departure of the mercury sphygmomanometer?	1
– Report from Member Leagues	
EHS Guidelines 2003	1
– WHL News	
Italian League Against Hypertension	2
– People	4
– Calendar	4

WHL News



By the end of December, the General Assembly of the **Italian League Against Hypertension** has elected the new executive committee for the period 2004 to 2007 comprising of Professors Ettore Ambrosioni, Guisepppe Germanò, Achille Cesare Pessina, Carlo Porcellati, Anna Santucci and Alessandro Rappelli. Prof. Gastone Leonetti (new president of the Italian Society of Hypertension) will serve as an ex-officio member.

The president, vice president, secretary general, and address of the league may be found on page 4, section **People**.

Editorial continued

measured the blood pressure of the same 8 patients within 30 minutes. The variation in assessment of systolic blood pressure in one case was 40 mmHg and the mean variability among the 8 observers was 21.6 mmHg^[1]. In more than 80% of cases, observers have a tendency to measure to the nearest zero or 5 (digit preference) adding to the inaccuracy of estimation of blood pressure level^[2]. Add to this the observer's expectation bias and one can only agree with Eoin O'Brien who stated that: "...blood pressure measurement as done in clinical practice today is a very inaccurate procedure, yet one on which we base management decisions with far-reaching consequences for the patient"^[3].

With regards to the reliability of mercury sphygmomanometers: Markandu *et al.*^[4] examined 500 mercury sphygmomanometers and their associated cuffs in a large London teaching hospital. More than half of them had serious problems rendering them inaccurate for measuring blood pressure. They also assessed the technical knowledge needed to measure blood pressure by the auscultatory technique amongst medical and nursing staff. Fifty percent of nurses and 9 percent of physicians admitted to being unfamiliar with the term Korotkoff sound. Furthermore, there were major deficiencies in the blood pressure measuring techniques like deflation rate, parallax errors, etc.

On the other hand, a number of automated devices now fulfill or exceed the criteria of the British Hypertension Society and the Association for the Advancement of Medical Instrumentation^[5]. Electronic devices are increasingly used in multicentre trials, eliminating the problem of inter and intra-observer error. Thus, in the recent ASCOT trial, the Omron[®] HEM-705CP instrument, and in other studies the Canadian BpTRU[™], were chosen as blood pressure measuring tools^[6].

In conclusion, the Riva-Rocci mercury sphygmomanometer served us well during the last century but has now outlived its usefulness. The sooner it is replaced by modern electronic instruments, the better it will be for the clinical management of hypertensive patients and for scientific research projects. There is no reason to mourn the disappearance of the Riva-Rocci instrument. It should be relegated to a place where it belongs, in the museum.

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Letters to the Editor on this topic are welcomed.

EHS Guidelines continued

tension, type and extent of complications and responses to dietary therapy and to antihypertensive drugs. Differences in plasma renin activity, aldosterone, kallikrein and dopamine B-hydroxylase were found between people of African and Caucasian origin. Due to population structure, developing countries have a greater proportion of young and middle aged individuals. The last factor may influence decisions regarding initiation and aggressiveness of therapy. Furthermore, there are important differences among different populations regarding life style, particularly dietary salt and alcohol consumption. Also, the prevalence of risk factors for hypertension and atherosclerotic cardiovascular disease (obesity, diabetes, cigarette smoking) varies.

Main Features of EHS Guidelines

Minimal vs Optimal Care: Guidelines have to make a compromise between what is possible (minimal care) and what is ideal (optimal care). The limited resources of the health care system in developing countries will dictate that many of the recommendations developed in the wealthy industrial countries have to be tailored and modified. It becomes imperative to direct drug treatment to individuals in the high risk category before considering their use in lower risk patients. The EHS guidelines are introducing the new concept of minimal versus optimal care. The choice will depend upon available resources. Minimal care includes the least expensive diagnostic and therapeutic approaches while not significantly compromising the quality of care. For example, when it comes to assessment of high cardiovascular risk in a hypertensive subject, a minimal care policy will include only notation of age, gender, family history, past history of atherosclerotic cardiovascular disease, smoking and body weight. Optimal care would also require lipid profile, blood sugar, ECG, serum creatinine and hs-CRP. The minimal care approach will depend on minimal laboratory investigations relaying more on careful history and physical examination. A longer period of blood pressure monitoring before initiating drug therapy and higher threshold of blood pressure are recommended. It should be realized that even a small reduction in blood pressure is worthwhile if absolute targets prove difficult to achieve. Drugs for first choice are thiazide diuretics.

Blood Pressure Measurement: Current guidelines stress the importance of accurate blood pressure measurement. It outlines the details of the technique and the precautions to be taken. At least two measurements should be taken in an office visit and the lower reading is reported.

Repeated Blood Pressure Measurement: A diagnosis of hypertension should be based upon a number of blood pressure readings, thereby avoiding the white coat effect (isolated office hypertension). Before initiating drug therapy, the physician should monitor blood pressure over a period varying from one week to twelve months.

Global Risk Profile: Similar to other guidelines the EHS stresses the importance of global risk assessment of hypertensive patients. Patients in the high risk category need early and aggressive lowering of blood pressure. Treatment recommendations should be based on an absolute cardiovascular risk since benefits are related to reduction in absolute risk.

Blood Pressure Threshold for initiation of Drug Therapy: This will depend upon the global risk profile. A more conservative approach is recommended with prolonged blood pressure monitoring and somewhat higher blood pressure threshold than other guidelines. This policy will increase cost effectiveness and avoid unnecessary treatment of low risk groups.

Life Style Modification: Guidelines stress the role of dietary modification, exercise, weight control and limiting salt and alcohol intake. If followed carefully, this may limit the need and the dosage of drug therapy. Patient and public education is needed to avoid salty foods and reduce the amount of added salt in the diet.

Drug Therapy: Thiazide diuretics are the cornerstone of antihypertensive therapy. Unless there are very special indications for other agents they should be the initial treatment. However, the majority of patients will require drug combination such as thiazide-beta adrenergic blockers or thiazide-ACEI combinations.



Dr. M. Mohsen Ibrahim
President, Egyptian Hypertension Society

For more details, please refer to the EHS website at: <http://www.ehs-egypt.net>

Comments on this topic are welcomed. ■

People



Prof. Alessandro Rappelli

Professor Alessandro Rappelli has been elected President, Professor Achille Cesare Pessina, Vice President and Professor Carlo Porcellati, Secretary General of the **Italian League Against Hypertension**. The address of the League is: Clinica di Medicina Interna, Azienda Ospedali Riuniti, Via Conca, 60020 Ancona, Italy.

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Impressum

The objectives of the WHL are to promote the detection, control and prevention of arterial hypertension in populations. The World Hypertension League (WHL) is a federation of leagues, societies and other national bodies devoted to this goal. Individual membership is not possible. The WHL is a division of the International Society of Hypertension (ISH), and is in official relations with the World Health Organization (WHO).

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Calendar

8th Annual Scientific Meeting of the Egyptian Hypertension Society

April 7–9, 2004

Dar Hars Al-Gomhoury,
 Cairo, Egypt

Information: Dr. Soliman M. Gharieb

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 Cairo University

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WHL Regional Meeting with the Czech Society of Hypertension: Community Control of Hypertension in Central and Eastern Europe

April 24, 2004

Prague, Czech Republic

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27th Annual Scientific Meeting of the Japanese Society of Hypertension

October 7–9, 2004

Utsunomiya, Japan

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25th Meeting of the Canadian Hypertension Society

October 23–25, 2004

Calgary, Canada

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Cardiovascular Disease Prevention VII

February 8–10, 2005

London, UK

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