



NOTES FROM THE EDITOR

Dear ISH member,

In the last issue of HT News, we gave those of you who had not already downloaded **The Lancet's hypertension issue** a chance to view this for free on-line. 627 had done so before and another 150 did so after reading HT News! Not bad and encouraging for Helen (Secretariat) who spends so much time making the newsletter available to us. The offer is still there.

<http://www.elsevierdigital.com/The-Lancet/Volume-380-Number-9841/>



L. H. Lindholm

Editor

Over the years, I have made friends with some of the Lancet's editors who collect **odd papers published in The Lancet** mostly during the 19th century. They are on broader health issues than high blood pressure but many of them are rather funny and I hope you will enjoy reading them as much as I do. Below, on this page, you can find the first one, which you could label "Nothing new under the sun". In the coming issues you will find one of these odd papers on page 3 or 4. In this issue there is also an interesting presentation of the Canadian HT guidelines, with a commentary by Neil Poulter (page 13).

Have a good read! **Lars H. Lindholm**

HORSE-BEEF BEEF-TEA AND SAUSAGES.

SOME features of the traffic in meat are indeed remarkable, as the following incident shows. A few days ago an omnibus conductor was imprisoned for over-driving two aged and exhausted horses which he had purchased for next to nothing. In the defence it came out that these worn-out animals were not sold with a view to further work, but, according to their former owner, for another purpose. They were intended to furnish beef for the manufacture of sausages and beef-tea. Comical though the statement may seem, it is one which, if reliable, opens up a somewhat serious question. The flesh of old, over-driven, and not too highly-fed horses must needs be of very inferior nutritive quality. Even if not diseased its fibrinous toughness and scant proportion of sound muscular tissue render it virtually useless as food. Its use in the making of sausages, and above all of beef-tea for invalids, is an evident absurdity. To pass it off as beef is a deliberate imposture which no quibble can excuse, and one which the Legislature has fortunately detected and declared to be legally punishable. The continuance of so disgraceful a practice will therefore depend solely on the success of efforts at evasion, and its best remedy must obviously be found in closer attention on the part of inspectors, and in subjecting delinquents when convicted to such penalties as will render their conduct unprofitable.

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HOT OFF THE PRESS

High blood pressure is the most important global risk factor.

In a special feature issue, the Lancet recently published data from the global burden of diseases project and the risk factors for the most important diseases. The publications show the results from a huge collaborative research group involving about 500 researchers from 300 institutions in 50 countries. In 1990, hypertension was the 4th most important factor in reducing DALY's globally (Disability Adjusted Life Years) after childhood underweight, indoor air pollution from fuels and tobacco smoking. In 2010, hypertension had climbed to being the most important risk factor responsible for about 7% of all lost DALY's (followed by tobacco and alcohol).

Lim SS, Vos T, Flaxman AD, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet 2012;380:2224-60

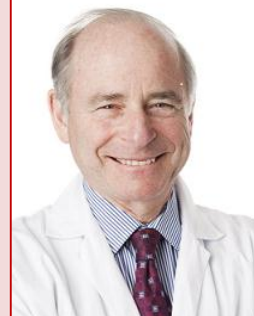
Is non-adherence a common cause of resistant hypertension?

Yes it is, according to a study recently published in the Journal of Hypertension. Starting with 108 patients referred for resistant hypertension, 15 had secondary hypertension and 17 responded to increased therapy. Of the remaining 76 patients, 40 (53%) were found to be non-adherent when the presence of antihypertensive drugs in the urine was assessed with liquid chromatography-mass spectrometry. Of the non-adherent subjects, 30% had no detectable traces of any antihypertensive drug in the urine.

Jung O, Gechter J, Wunder C. Resistant hypertension? Assessment of adherence by toxicological urine analysis. J Hypertens 213;31:766-74

MESSAGE FROM YOUR PRESIDENT

It is already almost six months since we met in Sydney. The meeting was quite extraordinary indeed in its depth and breadth. It was a wonderful opportunity for scientists and clinicians from across the world to interact and learn, as well as experience a wonderful country and friendly, welcoming people in Australia.



Ernesto L. Schiffrin

Your Executive and different committees of Council have since remained extremely active. All meet by teleconference every month to two months to make different types of decisions. The committees that meet most frequently include the New Investigator Committee, the Communications Committee, and as mentioned, the Executive Committee.

The Communications Committee has the very important task of overseeing the ISH website and producing this Society Newsletter, which allows us to keep in contact with our membership.

Key initiatives of the New Investigator Committee are the Mentorship Scheme and organization of an annual New Investigators' Symposium. In 2012 this event took place in conjunction with the Sydney meeting and in 2013 this is planned, again as in 2011, at the time of the American Heart Association Annual Fall High Blood Pressure Council Meeting, HBPR 2013 (11-14 September 2013, New Orleans, LA. USA). The New Investigator Committee circulates its own quarterly newsletter - *Explore* - and operates a standalone website which will shortly be integrated into the main ISH website. Committee members are actively recruiting young scientists and have recently created **working groups** charged with recruitment, media interactions, finance, and awards and evaluation. Please read on to find out more.



The Society has supported different regional activities of the Low and Middle Income Countries Committee in the past few months. Among these, the successful 6th Hypertension Teaching Seminar that took place on October 25-26 2012 at the Hotel SAWA

NEXT ISH SCIENTIFIC MEETING

**HYPERTENSION
ATHENS 2014**

JUNE 13 - 16, 2014 - ATHENS, GREECE
Megaron Athens International Conference Centre

www.hypertension2014.org

Abstract submissions open: 18 November 2013



in Douala, Cameroon, which brought together health professionals, mainly physicians, participating in hypertension diagnosis, treatment and control in mostly French speaking Equatorial Africa. A special report of this meeting follows.

The 7th Hypertension Teaching Seminar will take place in Abuja, Nigeria, later this year and bring together mostly English speaking physicians interested in hypertension from Africa.

A Hypertension Summer School also took place in October 2012, in Salta, in the North of Argentina, with great success and attendance from different surrounding Latin American countries, and was also supported by ISH. Again, a separate report is available in the Newsletter about this meeting.

We are currently organizing a Retreat of the Executive and Council of ISH, with added participation of young members of the Society and some senior members who are not part of the Leadership. At this event the future of the Society will be analysed and directions to be taken discussed.

This applies to:

- efforts to ensure persistent stability of funding of the organization
- enhancing recruitment of scientists and clinicians to the Society
- relationship with other organizations (local, regional and international) involved in education and research, treatment and control of hypertension
- the nature of our Biennial Scientific Meetings and finally
- whether the Society needs to establish Guidelines that will lead the practice of hypertension once adapted to local and regional conditions

This meeting will occur at the time of the European Society of Hypertension (ESH) meeting in Milan, in June 2013.

This will be the first of many updates that I will provide to members in the months to come, so they are aware of how our Society remains alive and active in between our biennial meetings.

The next meeting of ISH is a little more than a year away. This will take place in Athens, Greece, in conjunction with the ESH annual meeting (13-16 June). We are already looking forward and preparing for it.

Ernesto L. Schiffrin CM, MD, PhD, FRSC, FRCPC, FACP
President, International Society of Hypertension

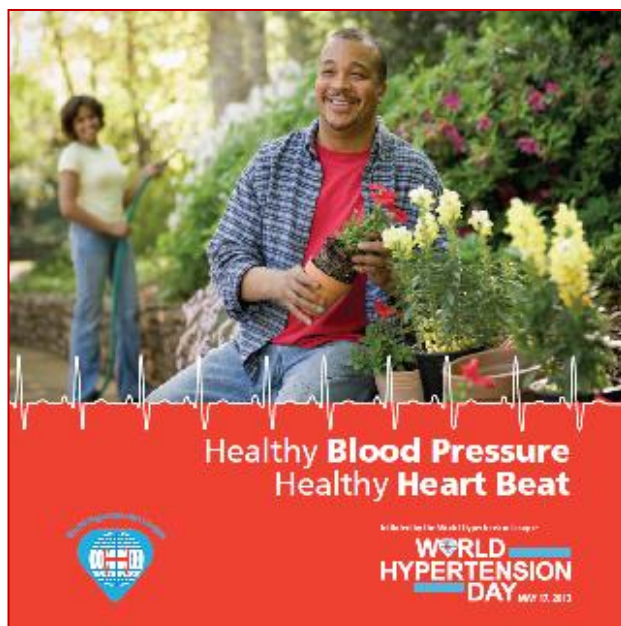
IMPORTANT DATES IN 2013

WORLD HYPERTENSION DAY: 17 MAY

The World Hypertension Day (WHD) was first inaugurated in May 2005 and has become an annual event ever since. The purpose of the WHD is to promote public awareness of hypertension and to encourage citizens of all countries to prevent and control this silent killer, the modern epidemic.

The theme for 2013 is **Healthy Blood Pressure-Healthy Heart Beat**.

Please see www.worldhypertensionleague.org.



WORLD HEALTH DAY: 7 APRIL 2013

In 1948, the First World Health Assembly called for the creation of a World Health Day to mark the founding of the World Health Organization (WHO).

The theme for World Health Day in 2013 was **high blood pressure**. Please see a report below from Dr. Shanthi Mendis - *Hypertension; Silent killer, global public health crisis*.

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Preventing heart attacks and strokes through a focus on hypertension.

Globally cardiovascular disease accounts for approximately 17 million deaths a year, nearly one

third of the total (1). Of these, complications of hypertension account for 9.4 million deaths worldwide every year (2). Hypertension is responsible for at least 45% of deaths due to heart disease, and 51% of deaths due to stroke. The theme of the World Health Day on 7th April 2013 was 'Prevention and control of heart attacks and strokes through a focus on hypertension'.

Hypertension and cardiovascular disease disproportionately affects populations in low- and middle-income countries where health systems are weak. Approximately 80% of deaths due to cardiovascular disease occur in low- and middle-income countries. They are the countries which can least afford the social and economic consequences of ill health. (1,3,4).

In 2008, worldwide, approximately 40% of adults aged 25 and above had been diagnosed with hypertension and the number of people with the condition rose from 600 million in 1980 to 1 billion in 2008 (3). In high-income countries, the prevalence of hypertension has declined due to strong public health policies and widely available diagnosis and treatment. However, in low and middle income countries, the disease burden of hypertension has increased over the past decade.

Causes and consequences of hypertension

The increasing prevalence of hypertension is attributed to population growth, ageing and behavioural risk factors, such as unhealthy diet, harmful use of alcohol, lack of physical inactivity, excess weight and exposure to persistent stress. The adverse health consequences of hypertension are compounded because many people affected also have other health risk factors that increase the odds of heart attack, stroke and kidney failure. These risk factors include tobacco use, obesity, high cholesterol and diabetes mellitus. Tobacco use worsens the risk of complications among those with hypertension. In 2008, 1 billion people were smokers and the global prevalence of obesity had nearly doubled since 1980. The global prevalence of high cholesterol was 40% and prevalence of diabetes was 10% in adults over 25 years (3). Tobacco use, unhealthy diet, harmful use of alcohol and physical inactivity are also the main behavioural risk factors of all major noncommunicable diseases, i.e. cardiovascular disease, diabetes, chronic respiratory disease and cancer (5-9).

If appropriate action is not taken deaths due to cardiovascular disease are projected to rise further. Increasing incidence of noncommunicable diseases including cardiovascular disease will lead to greater dependency and mounting costs of care for patients and their families unless public health efforts to prevent these conditions are intensified. The Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases, adopted by the United Nations General Assembly in September 2011, acknowledges the rapidly growing burden of noncommunicable diseases and its devastating impact on health, socioeconomic development and

poverty alleviation. The Political Declaration commits governments to a series of concrete actions (7).

Cost of inaction

Premature death, disability, personal and family disruption, loss of income and health care expenditure due to hypertension take a toll on families, communities and national finances. In low- and middle-income countries many people do not seek treatment for early stage hypertension because it is prohibitively expensive. Households often then spend a substantial share of their income on hospitalization and care of complications of hypertension, including heart attack, stroke and kidney failure. Families face catastrophic health expenditure and spending on health care, which is often long-term in the case of hypertension complications, pushing people into poverty (10). Over the period 2011-2025, the cumulative lost output in low- and middle-income countries associated with noncommunicable diseases is projected to be US\$7.28 trillion (11). The annual loss of approximately US\$ 500 billion due to major noncommunicable diseases amounts to approximately 4% of gross domestic product for low- and middle-income countries. Cardiovascular disease including hypertension accounts for nearly half the cost (12).

Cost of action



There are significant health and economic gains attached to early detection, adequate treatment and good control of hypertension. These approaches can significantly reduce the need for costly interventions such as cardiac bypass surgery and dialysis which currently are draining individual and government budgets.

The cumulative cost of implementing an integrated primary care programme to prevent heart attack, stroke and kidney failure, using blood pressure as an entry point has been estimated. The cumulative cost of scaling up very cost-effective interventions that address major noncommunicable diseases including cardiovascular disease in all low- and middle-income countries is estimated to be US\$ 9.4 billion a year (13).

The cost of implementing an integrated program for preventing heart attacks and strokes using hypertension and diabetes as entry points, is not high. The estimated cost is less than US\$1 per head in low-income countries, less than US\$1.50 per head in

lower middle-income countries and US\$2.50 in upper middle-income countries. Expressed as a proportion of current health spending, the cost of implementing such a package amounts to 4% in low-income countries, 2% in lower middle-income countries and less than 1% in upper middle income countries (13).

Closing the implementation gap

Hypertension rarely causes symptoms and many people go undiagnosed. Those who are diagnosed may not have access to treatment and may not be able to successfully control their illness over the long-term. Although cost-effective interventions are available for addressing hypertension, there are major gaps in application, particularly in resource-constrained settings.

A combination of interventions targeted at the whole population and specifically at high-risk groups are needed to address the implementation gap. Strengthening population-wide approaches reduce behavioural risk factors, e.g. unhealthy diet, harmful use of alcohol and physical inactivity can prevent hypertension. Tobacco use increases the risk of complications of hypertension. Salt reduction initiatives can also make a major contribution to prevention and control of high blood pressure. Vertical programmes focusing on treatment of hypertension alone are not cost-effective. Strengthening health systems to deliver cost effective integrated programmes, particularly at primary care level will facilitate treatment of people at high risk of complications in an affordable manner.

WHO tools such as the **WHO/International Society of Hypertension (ISH) risk prediction charts** (14) have been designed to aid cardiovascular risk assessment. Evidence-based guidance is also available on management of patients with hypertension through integrated programmes even in resource-constrained settings (15). WHO tools provide evidence based guidance on the appropriate use of medicines, so that unnecessary costs related to drug therapy can be avoided to ensure sustainability of programs. Not all patients diagnosed with hypertension require medication, but those at medium to high risk will need one or more of eight essential medicines to lower their cardiovascular risk (a thiazide diuretic, an angiotensin converting enzyme inhibitor, a long-acting calcium channel blocker, a beta blocker, metformin, insulin, a statin and aspirin). At least 30 low- and middle-income countries are now using these tools to address hypertension in an affordable and sustainable manner.

Coherent public health policies and multistakeholder efforts

The prevention and control of hypertension requires political will on the part of governments and policy makers. Health workers, the academic research community, civil society, the private sector and families and individuals all have a role to play. Only this concerted effort can harness the technologies and treatment options available to prevent and control hypertension and thereby delay or prevent its life-threatening complications.

Public health policy must address hypertension because it is a major cause of disease burden. Interventions must be affordable, sustainable and effective. As such, vertical programmes that focus solely on hypertension are not recommended. Hypertension should be tackled through a programme that addresses total cardiovascular risk and should be an integral part of the national strategy for prevention and control of noncommunicable diseases. on mechanisms.

There are six important components that need attention in planning country initiatives to address hypertension. They include:

- an integrated primary care programme
- the cost of implementing the programme
- availability and affordability of basic diagnostics and medicines
- reduction of risk factors in the population
- workplace-based wellness programmes and
- monitoring of progress.

Integrated programmes must be established at the primary care level to address hypertension while advancing the universal health coverage agenda. Drug treatment should be targeted particularly at people who are at medium or high risk of developing heart attacks, strokes and kidney damage. For this to happen, patients presenting with hypertension should have a cardiovascular risk assessment, including tests for diabetes mellitus and other risk factors.

Hypertension and diabetes are closely linked risk factors, and one cannot be properly managed without attention to the other. The objective of an integrated programme is to reduce total cardiovascular risk to prevent heart attack, stroke, kidney failure and other complications of diabetes and hypertension. Adopting a total cardiovascular risk approach ensures that drug treatment is provided to those at medium and high risk. It also prevents unnecessary drug treatment of people with borderline hypertension and low cardiovascular risk. Unnecessary drug treatment exposes people to unwarranted risks and increases the cost of health care. Both need to be avoided. In addition, a cost-effective programme must include population-wide approaches to shift the blood pressure distribution of the whole population to a healthy pattern. Population-wide approaches to reduce high blood pressure are similar to those that address other major noncommunicable diseases. These require public policies to reduce the exposure of the whole population to risk factors such as unhealthy diet, physical inactivity, harmful use of alcohol and tobacco use including school health and workplace-based wellness programmes (8, 9).

Reducing population salt intake requires action at all levels, including the government, the food industry, nongovernmental organizations, health professionals and the public (8, 9). A modest reduction in salt intake can be achieved by voluntary reduction or by regulating the salt content of pre-packaged foods and condiments. The food industry can make a major contribution to population health if a gradual and sustained decrease is achieved in the amount of salt that is added to pre-packaged foods. In addition, sustained mass media campaigns are required to

encourage reduction in salt consumption in households and communities.

Skilled and trained health workers at all levels of care are essential for the success of hypertension control programmes. Training of health workers should be institutionalized within medical, nursing and allied health worker curricula. The majority of cases of hypertension can be managed effectively at the primary health care level. Primary health care physicians as well as trained non-physician health workers can play a very important role in detection and management of hypertension (15).

Civil society institutions, in particular non-governmental organizations (NGOs), academia and professional associations, have a major part to play in addressing hypertension and in the overall prevention and control of noncommunicable diseases at both country and global levels. The ISH has a long history of collaboration with WHO and working specifically in the area of hypertension and cardiovascular disease. WHO in collaboration with the ISH and other partners has developed evidence-based guidance and implementation tools to assist countries to address hypertension through a combination of interventions focused on individuals and the whole population. At present WHO, in consultation with Member States and other partners, is coordinating the development of a global action plan for the prevention and control of noncommunicable diseases (8) and a global monitoring framework. Together, they will provide a roadmap to operationalize the commitments of the UN Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases (7) and to continue the work of the Global Strategy for prevention and control of noncommunicable diseases including hypertension (9).

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2011

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NEW INVESTIGATOR COMMITTEE

Follow New Investigator Network activities on Facebook and Twitter

www.facebook.com/ISHNIN

www.twitter.com/ISHNIN



Working Groups : Four New Investigator Committee (NIC) Working Groups were recently established to strengthen and further develop NIC activities and ensure that the committee is more regionally representative.

We would like to welcome group members (as listed overleaf).

AWARDS & EVALUATION WORKING GROUP

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REGIONAL ACTIVITIES & REPORTS

AFRICA

6TH ISH HYPERTENSION TEACHING SEMINAR, DOUALA, CAMEROON

The 6th Hypertension Teaching Seminar took place on October 25-26 2012 at the Hotel SAWA in Douala, Cameroon.



The successful event was organized by the International Society of Hypertension (ISH) Low and Middle Income Countries Outreach Committee (LMICOC) in collaboration with the European Society of Hypertension (ESH), the World Hypertension League (WHL), the Cameroon Heart Foundation, the Douala School of Medicine and Pharmaceutical Sciences, the International Forum for Hypertension Control and Prevention in Africa (IFHA) and the International Society of Nephrology (ISN). The Seminar was followed by the 5th African Scientific Meeting on Hypertension and Cardiovascular Protection, with the support of ISH.

The opening ceremony of the Seminar and the Congress was presided over by the special representative of the Cameroon government, Mr Joseph Betty Assomo, governor of the Littoral region. He acknowledged ISH for choosing Cameroon to host the Seminar and indicated that the Cameroon government recently adopted his official non-communicable diseases national strategic program including hypertension. The ceremony was also attended by the representative of the Minister of Public Health, Dr Etoundi Mballa, Director General at the Ministry of Public Health, and by Dr Guy Sandjon, representative of the Cameroon Medical Council.

The scientific educational program of the Seminar included lectures by the mixed European-African faculty on various aspects of hypertension with emphasis on the situation in Africa, involving epidemiology, blood pressure measurement, risk

stratification, pathophysiology, cardiovascular and renal complications, drug treatment, resistant hypertension, hypertensive emergencies and organizational issues in low resource settings. In addition, methodological aspects of epidemiological and interventional studies were discussed, and 13 abstracts were presented by young investigators on research in Africa.

Seminar directors were **D. Lemogoum (Cameroon)** and **R. Fagard (Belgium)**. Faculty members included A. Damasceno (Mozambique), N. Lameire (Belgium), S. Laurent (France), G. London (France) and J.R. M'Buyamba-Kabangu (DR Congo).



The last session of the Seminar in the afternoon of October 26 was organized as a joint session with the 5th African Scientific Meeting on Hypertension and Cardiovascular Protection, which continued on Saturday October 27.

The number of registered delegates came to 780 on day 1, 585 on day 2 and 490 on day 3, including physicians (about 40%), medical students and nurses. Most delegates were from Cameroon; in addition ISH supported delegates from Burundi, Congo, RD Congo, Ivory Coast, Gabon and Togo.

The closing ceremony of the two meetings was led by Dr Fritz Ntone Ntone, the mayor of Douala in the presence of the regional Director of Public Health Dr Nyame. Dr Ntone congratulated ISH and partners for the successful organization of the Seminar and the Congress, and, in recognition of ISH, appointed Prof **R. Fagard 'Distingué Citoyen d'Honneur'** of the town of Douala. Dr Ntone promised to launch in the nearest future a special cardiovascular disease program throughout the town of Douala in order to translate into practice the main recommendations of the Hypertension Teaching Seminar.

In the framework of the hypertension meetings, a special free cardiovascular diseases risk screening activity was implemented at the 'Place du gouvernement' close to the SAWA hotel. A total of 1,000 persons were screened for hypertension, diabetes, obesity, smoking behaviour and cardiac arrhythmias.

ISH looks forward to the 7th Hypertension Seminar which will be held in Abuja, Nigeria, on October 24-25 2013.

R. Fagard and D. Lemogoum

HYPERTENSION SCHOOL, SALTA, ARGENTINA

From October 18 to 21, a Hypertension School took place in the city of Salta, in the North of Argentina, organized by the Argentine Society of Hypertension (SAHA), the Latin American Society of Hypertension (LASH) and the Inter-American Society of Hypertension (IASH) and sponsored by the International Society of Hypertension (ISH).

ISH contributed to the financial support of this meeting that brought together hypertension specialists or trainees in hypertension from Argentina, Bolivia, Brazil, Uruguay, Chile, and Canada.

After a visit to the Regional Hospital and presentation of clinical cases by local physicians, sessions started with presentations regarding Epidemiology of Hypertension and Related Diseases in Latin America) by Margarita Diaz (Uruguay, LASH), Epidemiology of Hypertension in Argentina by Horacio Carbajal (Argentina, SAHA), Epidemiology and Prognosis of Hypertension and Pregnancy in Latin America by Gloria Valdes (Chile, IASH), Treatment of Hypertension in Pregnancy by Liliana Voto (Argentina, SAHA) and finally a discussion on Blood Pressure Monitoring (the place of office, home and ambulatory blood pressure monitoring for diagnosis and management of hypertension in Latin America).

On the second day of the meeting, during the morning session there was an Update of the Renin-Angiotensin System by Robson Santos (Brazil, IASH), discussion of Role of the Sympathetic Nervous System in Hypertension and Metabolic Syndrome by Agustin Ramírez (Argentina, LASH-ISH), and a presentation on The kidney, Salt and Hypertension by Luis Juncos (Argentina, IASH- SAHA), followed by discussion of Left Ventricular Hypertrophy Regression in Hypertension by Daniel Piskorz (Argentina, SAHA), a Treatment Update on Hypertension by Eduardo Barbosa (Brazil, LASH), and a presentation on Antihypertensive Treatment Combinations by Mario Bendersky (Córdoba, SAHA-IASH) and a Panel Discussion. The afternoon of the second day saw a discussion of Argentina's Guidelines in Hypertension by Roberto Ingaramo (Argentina, SAHA), presentation of the Latin American Guidelines in Hypertension and Diabetes by Ramiro Sanchez (Argentina, LASH), presentation of The Carmela Study (epidemiological study on hypertension and the metabolic syndrome in Latin American cities, including a sub-study relating intima-media thickness to BP levels) by Rafael Hernandez Hernandez (Venezuela, LASH), discussion of Diagnosis and Treatment of Hypertension in Children by Rosa Simsolo (Argentina, SAHA) and of Incidence and Prevalence of Hypertension in Children and Adolescents in Latin America by Luis Pompozzi (Argentina, SAHA), as well as Hypertension in the

Elderly by Gabriel Waisman (Argentina, SAHA) and a Panel Discussion.

On day 3 of the meeting, Gabriel Navar (USA, IASH) presented on The Intrarenal RAS in Pathogenesis of Hypertension, and Mariela Gironacci (Argentina, IASH) on Natriuretic Peptides in Hypertension followed by a Panel Discussion. The meeting was closed by a lecture on Resistant Hypertension by Ernesto Schiffrin (Canada, President of ISH).

The meeting took place in beautiful surroundings (see group photo below), in rather warm but pleasant weather, in an ambiance of *détente* and camaraderie, and according to most comments, was enjoyed by all and a great learning opportunity.



ISH is proud to have contributed to this knowledge transfer occasion, and its money was well spent. All attendants indicated that they appreciated immensely the support of ISH that rendered this Hypertension School possible, created a major opportunity for knowledge transfer, as well as collaboration between ISH and LASH, IASH and SAHA.

LATIN AMERICAN CONSENSUS ON HYPERTENSION IN PATIENTS WITH DIABETES TYPE 2 & METABOLIC SYNDROME

Hypertension, diabetes and that cluster of metabolic alterations often referred to as the metabolic syndrome are highly prevalent in Latin America and occur frequently as associated conditions.



Ramiro Sanchez

The development of diagnostic and therapeutic recommendations prepared through the joint work of experts in different areas of medicine is desirable, considering the low rates of control achieved in the real world, and the benefits that can be expected when reasonable objectives are met. Healthcare resources and priorities, the socioeconomic status of

the population and the prevalence of hypertension, diabetes mellitus and other related diseases vary considerably in different regions of the world and also in different countries within each region, and even in different areas of individual countries. Recommendations to be usefully translated into practice should consider the particular medical and social features of the region where they should be applied and be cost-effective in terms of local needs and possibilities.

In Latin America the prevalence of metabolic syndrome components, including arterial hypertension, appears to be increasing. A large body of local studies has reported that the prevalence in adults range from 25 to 45%, with important differences between urban and rural areas, but comparisons are difficult because different definitions of metabolic syndrome were used. In patients with myocardial infarction or stroke, the prevalence was as high as 75%, regardless of the diagnosed criteria used (International Diabetes Federation, IDF, or Adult Treatment Panel III, ATP III.)

This document has been prepared by a group of experts, members of cardiology, endocrinology and diabetes societies of Latin American countries, to serve as a guide to physicians taking care of patients with diabetes, hypertension and comorbidities or complications of both conditions.

These recommendations result from presentations and debates by discussion panels during a 2-day conference held in Bucaramanga, in October 2012. Chairs and moderators of the plenary session were Dr Stephen Harrap (Immediate Past President of the ISH) and Dr Alberto Zanchetti, (Editor in Chief of the Journal of Hypertension) and all the participants have approved the final conclusions.

The authors acknowledge that the publication and diffusion of guidelines do not suffice to achieve the recommended changes in diagnostic or therapeutic strategies, and plan suitable interventions overcoming knowledge, attitude and behavioural barriers preventing both physicians and patients from effectively adhering to guideline recommendations. A great diversity in socioeconomic characteristics is found in Latin American countries, and this is reflected in differences in cardiovascular mortality and morbidity. At variance with what has occurred in the United States and Western Europe, in most Latin American countries, cardiovascular mortality rate has increased during the last decade of the twentieth century and the beginning of the twenty first century, with the exception of Argentina and Uruguay.

Even in the latter countries, however, cardiovascular morbidity and prevalence of cardiovascular risk factors have persisted unchanged or have increased, what has particularly occurred for arterial hypertension, obesity, metabolic syndrome and diabetes. Indeed, years before the current increase of cardiovascular illness, lifestyle changes have appeared in the region with changes away from

traditional alimentary habits and access to westernized models of nutrition that are likely to have facilitated the genetic expression of these diseases. The pattern of morbidity is further complicated by the phenomenon of a progressive migration of rural inhabitants to urban areas, which increases the urban periphery with low resource individuals, favouring emergent risk factors as acculturation, violence, stress and malnutrition.



Ramiro Sanchez, MD on behalf of the Expert Group

WESTERN EUROPE AND NORTH AMERICA

HYPERTENSION HIGHLIGHTS AT SCIENTIFIC SESSIONS OF THE AMERICAN HEART ASSOCIATION, 2012, LOS ANGELES, CALIFORNIA.

Scientific Sessions is the American Heart Association's largest meeting of scientists and healthcare professionals devoted to the science of cardiovascular disease and stroke and the care of patients suffering from these diseases.

Rhian Touyz

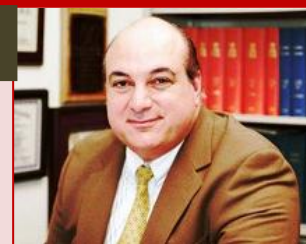


Scientific Sessions provides five days of comprehensive education and science through almost 5,000 presentations given by some of the world's top leaders in the areas of cardiovascular disease. In 2012, there were ~22,000 registrants from over 15 countries.

JNC REPORT

George Bakris

A variety of guidelines for hypertension management are written by various groups around the world.



Perhaps the two most read are the National Institutes of Health, Heart Lung and Blood Institutes-Joint National Committee (JNC) report and the European Society of Hypertension/European Society of Cardiology (ESH/ESC) guidelines.

While not as well read internationally, the first to take a rigorous, evidence-based approach, grading the evidence for specific recommendations were the National Institute for Health and Clinical Excellence (NICE) committee in the United Kingdom. Clinical hypertension specialists in the United States and much of the world, however, focus on the JNC report for the updated guidance to treat their patients.

Traditionally, JNC reports were designed to be updated as new information was available and designed to provide insight into hypertension diagnosis, treatment and prevention. The JNC reports started in 1977, and were designed to be renewed when there was substantive increase in new information from clinical trials. The JNC reports would be produced every 4-6 years up until JNC 7.

After the JNC 7 there was recognition by the American Heart Association, that produce their own set of guidelines on heart diseases associated with hypertension and the National Institutes of Health, that an evidence based approach needed to be undertaken rather than the traditional “expert opinion” that was the rule. As a member of the JNC VI review committee and JNC 7 writing committee the “expert opinion” was indeed based on evidence and the writing group’s agreement as to the quality of evidence, however, an independent committee of epidemiologists and statisticians did not grade the evidence. This and other aspects that diverge from previous approaches to these guidelines is what the world will see when JNC 2013 (also known as JNC 8) is released later this year.

The document takes an evidence based approach to recommendations and the format has been totally revamped. It is similar to the NICE guidelines in that all statements are made in a positive tone but then a grade on the level and quality of evidence appears. Thus, if one only reads the recommendation and ignores the grade they will be misled. Moreover, if they read the grade and disagree full documentation as to why the recommendation was made and the grade given is detailed with references and rationale.

Three specific questions were addressed in the JNC 2013: A) among adults, does treatment with antihypertensive therapy to a specific BP goal lead to

The High Blood Pressure Research Council (HBPRC) was very well represented at the 2012 American Heart Association Annual Scientific Sessions, with a number of important and varied topics relating to hypertension. While there was a strong focus on molecular mechanisms and novel therapies in the field, there were also many talks related to clinical hypertension, particularly with respect to 'resistant hypertension, hyperaldosteronism, treatment guidelines and salt and hypertension.

Some special sessions sponsored by the HBPRC included:

1. Endothelial-Derived Microparticles, Endothelial Senescence and Premature Vascular Aging
 - Aging, Endothelial Senescence, Importance of Different ROS Isoforms
 - Endothelial-Derived Microparticles and the Renin-Angiotensin System
 - Prevention and Reversal of Premature Endothelial Cell Senescence
 - Endothelial-Derived Microparticles and Coronary Artery Disease
2. Pharmacogenomics of Essential Hypertension
 - Who Should Be on a Low-Sodium Diet?
 - Genetics of Salt-Sensitive Hypertension: Clinical Perspectives
 - Pharmacogenomics of Essential Hypertension
 - Genetics and mechanisms of Salt-Sensitive Hypertension: Basic Science Perspectives - Virtual Kidney Biopsy and the Diagnosis of Salt Sensitivity
3. Targeting Adipose Tissue in Hypertension
 - Hemodynamics and Hypertension in Childhood Obesity: Back to the Future
 - RAAS System in the Crosstalk Between Adipose Tissue and Vascular Tone:
 - Inflammatory Cells Within Perivascular Adipose Tissue and Blood Pressure
 - Adipokines as Regulators of Vascular Physiology: Therapeutic Targets in Hypertension?
 - Sex Differences in Epicardial Fat Biomarker
4. How to Measure Arterial Stiffness and Why Should We Measure It?
 - Techniques to Assess Arterial Stiffness/Elasticity
 - Effect of Pharmacological Therapy on Arterial Stiffness
 - Is Therapeutic Treatment of Arterial Stiffness Superior to Lowering Arterial Blood -
 - Pressure in Cardiovascular Outcome?
 - Should We Add Vitamins or Antioxidants to Improve Arterial Stiffness?
5. Novel Mechanisms and Therapeutic Targets
6. Emerging Diagnostic and Treatment Approaches.

The sessions comprised a good balance of basic and clinical science. The 2013 Scientific Sessions will take place in November in Dallas. Hopefully the JNC8 guidelines will be available by then, which should be a highlight of the meeting.

Rhian M Touyz MD, PhD, FAHA

improvements in health outcomes? B) Among adults with hypertension, does initiating antihypertensive therapy at specific BP thresholds improve health outcomes? And C) In adults with hypertension, do various antihypertensive drugs or drug classes differ in comparative benefits and harms on specific health outcomes? These question addressed across the spectrum of diabetes, kidney disease, and the elderly and ethnic groups. Other issues were addressed as well.

This writer cannot say what the recommendations of JNC 2013 will be as of this writing but if one looks at the evidence in other recently published guidelines e.g. American Diabetes Association Clinical Practice Guidelines (Diabetes Care, Jan. 2013) or Kidney Disease Improving Global Outcomes (KDIGO) Hypertension Guidelines (Kidney Int., Dec 2012) the recommendations in the JNC 2013 will not be that surprising. It is clear that <130/80 mmHg as a blood pressure goal cannot be defended in kidney disease with three randomized appropriately powered trials showing lower is NOT better for slowing nephropathy progression. Additionally, this is true in diabetes where trials failed to show a benefit of lower blood pressure in overall cardiovascular outcome.

As for treatment initiation, it is abundantly clear that drugs other than thiazide-like diuretics (chlorthalidone and indapamide) have evidence for reducing mortality when used as initial agents and so one hopes there will be a choice of initial therapy including single pill combinations.

So the JNC 2013 is five years overdue but finally coming “out of the oven” for tasting. In my opinion it will be an acquired taste but like a fine wine, after a while the reader will enjoy the finish. It is loaded with facts so must be read slowly allowing time for absorbance of the knowledge. The good news for those who do not have time to read it the document this way, an executive summary is provided with all the top line results.

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THE CANADIAN HYPERTENSION EDUCATION PROGRAM (CHEP) RECOMMENDATIONS: 2013 UPDATE

The CHEP Recommendations Task Force (RTF) meets annually to review, discuss and formulate changes to the recommendations for diagnosing and managing hypertension in Canada (available at www.hypertension.ca).



Raj Padwal

Annual literature reviews are performed to inform this process. Two recommendation changes were made in 2013.

Treatment of hypertension in the very elderly
New Recommendation: In the very elderly (age 80 years and older), the target for systolic BP should be < 150 mmHg (Grade C).

Previously, no systolic blood pressure target threshold for the very elderly was specified in the CHEP recommendations. However, providers were specifically cautioned to monitor frail elderly patients closely for treatment-related adverse effects. Reappraisal of this topic was prompted by recently published literature.[1] A meta-analysis examining patients enrolled in five placebo-controlled randomized trials (1670 subjects) was reviewed. Statistically significant placebo-subtracted reductions in stroke [relative risk (RR) 0.66; 95% confidence interval (CI): 0.48-0.92], major cardiovascular events (RR 0.78; p=0.01; CI not reported), and heart failure (RR 0.61; p=0.01; CI not reported) but not mortality (RR 1.06; 95% CI: 0.95-1.18) occurred with active treatment.[2]

The Hypertension in the Very Elderly Trial (HYVET), which randomized 3,845 very elderly individuals with systolic blood pressure levels of ≥ 160 mm Hg to active treatment (indapamide \pm perindopril) or placebo, was also reviewed.[3] Target blood pressure levels were <150/80 mm Hg.

Initial blood pressure levels averaged 173.0/90.8 mm Hg. The trial was stopped early (after 1.8 years median follow-up), at which point achieved blood pressures were 158.5/84 for placebo and 143.5/77.9 for active treatment. Stroke (1.2% vs. 1.8%; HR 0.70; 95% CI: 0.49-1.01), stroke mortality (0.7% vs. 1.1%; HR 0.61; 95% CI: 0.38-0.99), all-cause mortality (4.7% vs. 6.0%; HR 0.79; 95% CI: 0.65-0.95) and heart failure (0.5% vs. 1.5%; HR 0.36; 95% CI: 0.22-0.58) were lower in those on active treatment. Results of a one-year, open-label, active treatment extension supported the main trial findings.[1]

Although the achieve blood pressure levels were closer to 140 mm Hg with active treatment, the Task Force’s consensus opinion was that a more conservative <150 mm Hg target threshold should be recommended, as this was the a priori pre-trial target. A higher target was also chosen because of concerns that the highly selected sample enrolled in HYVET might not be representative of frailer very elderly patients in clinical practice. Methodological concerns also led to a reduction in the recommendation Grade - more details can be found in a forthcoming CHEP RTF Scientific Summary.

Physical exercise: resistance training

Recommendation (changes in bold text): For non-hypertensive individuals (to reduce the possibility of becoming hypertensive) or for hypertensive patients (to reduce their blood pressure), prescribe the

accumulation of 30 to 60 minutes of moderate intensity dynamic exercise (such as walking, jogging, cycling or swimming) 4-7 days per week, in addition to the routine activities of daily living (Grade D). Higher intensities of exercise are no more effective (Grade D). **For non-hypertensive or stage 1 hypertensive individuals, the use of resistance or weight training (such as free weight lifting, fixed-weight lifting, or handgrip exercise) exercise does not adversely influence blood pressure (Grade D).**

The RTF reviewed a recently published meta-analysis of 28 randomized controlled trials that examined blood pressure in 1012 adults performing resistance training 3 sessions per week. Systolic blood pressure was reduced by 3.87 mm Hg (95% CI 1.5-6.2 mmHg) and diastolic blood pressure reduced by 3.6 mm Hg (95% CI 2.1-5.0 mmHg) following resistance training.[4] Lower, non-significant reductions in blood pressure were reported in the 4 trials that limited enrolment to hypertensive subjects. Of note, no serious adverse events were reported in these participants.

Given these limitations, the RTF felt that confirmation of these findings would be required in larger and more methodologically rigorous studies before resistance training could be recommended as an intervention to reduce blood pressure in hypertensive patients. However, avoidance of resistance exercise out of concern that resistance exercise can acutely increase blood pressure or cause harm appears unwarranted.

The RTF also discussed several additional topics, but no recommendation changes were made for 2013. These included diastolic blood pressure lowering in patients with ischemic heart disease, the treatment of Stage I uncomplicated hypertension, organization of care for hypertension and nighttime dosing of antihypertensive agents. In a forthcoming Scientific Summary, these issues will be reviewed in detail. The CHEP RTF will continue to monitor these and additional issues and produce updated recommendations annually.

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Update from CHEP by Raj Padwal (Edmonton), Luc Poirier (Quebec City) and Sheldon Tobe (Toronto)

COMMENTARY - CHEP RECOMMENDATIONS



Neil Poulter

ISH Council member &
Communications Committee
member, UK

The Methodology which generates the CHEP recommendations are an exemplary model for all hypertension guidelines to follow.

The huge effort, to convene many sub-committees each of which must meet several times every year to cover all aspects of hypertension is extraordinary and laudable. However, that only 2 changes are recommended in 2013 raises questions about the cost (who pays?) or cost-effectiveness of the process, whilst at the same time acknowledging that the CHEP recommendations are the most contemporary in the world. What a contrast with those from the US which were last produced in 2003 and those from Europe which are not based on formal systematic reviews.

The recommendation of a new systolic target for the very elderly seems reasonable and evidence based (1). One wonders what the reservations re the HYVET methods were to have lowered the evidence grade to C? Hopefully it isn't the initially reported non-significance of the primary endpoint since that was subsequently shown to be significant! (2).

More revolutionary might have been to consider the increasing evidence that there appears to be differential beneficial effects of types of diuretics on CV events and as a result to recommend thiazide-like rather than low-dose thiazide diuretics as the NICE/BHS guidelines did in 2011 (3).

The second recommendation from CHEP to suggest resistance training, even in Grade I hypertension is permissible seems at first sight, at least, to be less robust. One wonders about the power generated by the 4 small trials among hypertensive subjects to give reassurance that no SAEs really result from such exercise. No doubt the full document will provide that reassurance.

In summary, CHEP 2013 recommendations provide no big surprises although the very elderly should be pleased. Meanwhile CHEPs refusal to let the results of the ACCOMPLISH trial (4) dominate the selection of optimal 2-drug combinations remains surprising given the world-beating infrastructure used for these guidelines.

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