Editorial

Music and the Autonomic Nervous System

I came to be interested in this subject as a result of a number of lucky chances. In 1992 I took a sabbatical in Pavia, Italy, to work with Dr. (now Professor) Luciano Bernardi in order to learn more about the underlying mechanisms driving heart rate variability (HRV). HRV has become an increasingly powerful marker of prognosis in many cardiac conditions, including hypertension.

We began a series of studies in normal young subjects in order to investigate the normal physiology of HRV. We began by using standard techniques such as the stress of mental arithmetic—a standard way of altering sympatho-vagal balance. We found a marked difference between mental arithmetic carried out verbally (as normally used) and mental arithmetic done silently (writing on a slate). The stress was the same in both cases, but the normal verbal method slows breathing markedly (as the subject takes deep breaths between serial subtractions), and this alters the autonomic response. We then needed a control condition using a non-stressful verbalisation which similarly resulted in slowed breathing. The Catholic prayer the Rosario or Ave Maria was chosen. To our great surprise this prayer synchronised to an approximately 10 sec cycle all the variables we were measuring—respiration, RR interval, blood pressure (BP), Doppler derived cerebral blood flow and skin blood flow. Saying this repetitive prayer in Latin turned out to take almost exactly 10 sec (6 breaths/min) — the period of the spontaneous Mayer waves in the arterial BP. This prayer thus enhanced the Mayer waves in BP, with conse-

WHL News

11th Annual Scientific Meeting of the Egyptian Hypertension Society (EHS), April 18–20, 2007

Over 500 physicians from across Egypt and 20 international faculty from the middle East, Canada and the USA attended this successful conference. It covered topics of various hypertension guidelines including the Egyptian, obesity, diabetes, genetics, renovascular disease and management of hypertension. The presentations included basic, epidemiological and clinical aspects of hypertension. Dr. Mohsen Ibrahim, President of EHS, was honored for his significant contribution to Egypt at the conference.

Prof. Fathy Maklady, Dr. Arun Chockalingam and Prof. Mohsen Ibrahim (from left to right)

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IASH-COSEHC Scientific Sessions

Following in the fine tradition of previous biennial meetings, the 17th meeting of the Inter-American Society of Hypertension (IASH) was held in Miami, Florida on May 6-10, 2007. The meeting provided a forum in which scientific work related to hypertension, atherosclerosis, the metabolic syndrome, and obesity was presented. The program afforded participants opportunities to present both basic and clinically related work in the form of posters, oral presentations, and invited lectures and symposia.

The IASH was originally founded by members of the Council on High Blood Pressure Research in association with scientists from Latin America in order to stimulate and nurture collaboration and scientific interactions among scientists involved in hypertension related research throughout the Americas. Since then, IASH has held meetings every two years. The meeting in Miami was one of the most successful meetings with over 500 registrants.

Special clinical symposia focused on updating clinical guidelines for management of global risk factors, epidemiology of hypertension in Latin-American countries, new insights into the role of hypertension in diabetes, dyslipidemia, the metabolic syndrome, and obesity. In addition, complementary sessions addressed new aspects of clinical hypertension research on genetics, role of prostanoids in the inflammatory processes associated with hypertensive vascular disease and atherosclerosis, as well as newer insights into the role of the renin angiotensin system in the pathogenesis of hypertension and vascular disease. Additional featured research symposia included the emerging role of renin inhibitors in the management of hypertension, renal disease, and heart failure. Sessions in the epidemiology and prevention of hypertension related target organ damage provided an update on aspects of the problem throughout the Americas.

This year’s meeting was unique in that it was co-sponsored by COSEHC (The Consortium for Southeastern Hypertension Control). COSEHC is a non-profit organization created in 1992 which has its mission as reducing hypertension and hypertension-related risk factors through education, research, publication, and quality improvement. Together, both of these organizations provided an overall tone of science that expanded along the lines of clinical approaches to management of global cardiovascular risk factors, population studies, and prevention, and brought together research experts from the fields of hypertension and vascular disease and related areas. The Council on High Blood Pressure Research supported the meeting by providing a grant of $25,000 which was used to provide 35 merit based young investigator travel awards. IASH provided travel support for another 11 young investigators, and COSEHC provided in-kind funding in program development and CME accreditation. The winners of the IASH Young Investigator Awards were Vera de Moura Azevedo Farah and Katie DeAngelis both from Sao Paulo, Brazil. The IASH Lifetime Achievement Award was presented to Alberto Nasjletti, MD, from New York.

There were a total of 503 registered participants for the meeting, which included 156 faculty. The success of the meeting was made possible by the generous support of a number of corporate sponsors including various pharmaceutical companies, the American Heart Association Council for High Blood Pressure Research, and the National Lipid Association.

Overall, 336 abstracts were submitted, resulting in 293 poster presentations and 43 oral presentations.
World Hypertension Day 2007

Activity Report from India

This year, WHD was a daylong affair at the National Heart Institute, from 9am to 5pm. As suggested by WHL, the theme of this year was ‘Healthy Diet, Healthy Blood Pressure’.

Posters on display

The Library and Conference Hall were the scene of lively activity. Posters highlighting important features of hypertension (definition, control by lifestyle changes, drugs, BMI etc.) were prominently displayed. The attendees were explained these features by the doctors in attendance. All patients had BP check, BMI, BMR and blood sugar check and advice as needed was given. They were also given literature in simple language on hypertension. A video film on hypertension made by the All India Heart Foundation (AIHF) was also displayed. Doctors, nurses and social workers from AIHF and the National Health Institute (NHI) participated in the function. We are grateful to OMRON for their assistance in making the function a success.

Visitors to the session

Dr. S. Padmavati
All India Heart Foundation

Editorial continued

quent baroreceptor stimulation and increase in vagal tone. We found the same effects on the autonomic nervous system by reciting a yoga mantra, which also had a 10 sec periodicity. We speculated that the Ave Maria prayer may have developed after Catholic priests learnt these breathing techniques from Eastern gurus at the time of the crusades.

We next studied the effect of music on the circulation. We compared the effects of standardised 2 min and 4 min tracks from 6 different music styles (from Rap & Techno to Classical & Dodecaphonic) presented in random order to 12 young musicians and 12 non-musicians. Previous studies of the effect of music have been less well controlled – which is important since we found that there is a strong order effect – the initial track has a larger effect than subsequent tracks. We also found that the random insertion of a 2 min silent track had a relaxing effect on BP and heart rate that was greater than was seen after a 10 min baseline period of rest. Faster tempi raised BP and heart rate more than music with a slower tempo. We found that the arousing effect of faster music was related to a faster breathing rate; the most relaxing music was a track of Indian Raga music. Musicians followed the tempo better than non-musicians. But we were surprised to find that the effects of the tracks seemed solely related to the tempo and not to differences in style e.g. between Rap & Vivaldi at similar tempi.

In summary music has both arousing and also calming effects – particularly when a pause follows an arousing phrase. Does music have any future as a treatment for people with hypertension? It is too early to be sure of this, but now there are devices which are commercially available which can entrain respiration. Training in slower breathing using such devices, or using recordings of slow calming music, might in future be useful in changing sympatho-vagal balance – and lowering BP.

Prof. Peter Sleight
John Radcliffe Hospital, Oxford, UK

References:

Comments on this topic are always welcome!
People

Prof. Neels Potgieter is the new president of the Southern African Hypertension Society. The address of the Society remains the same: PO Box 122, River Club 2149, South Africa.

Phone: (+27-11) 706-4196
Fax: (+27-11) 706-4196
E-mail: sahs@hypertension.org.za

Electronic Newsletter Delivery
http://www.worldhypertensionleague.org

Calendar

The Central European Meeting on Hypertension and Cardiovascular Disease Prevention
October 11–13, 2007
Krakow, Poland
Information: Via Medica Group
Swietokrzyska 73, 80-180 Gdansk, Poland
Fax: (+48-58) 320-9460
Website: http://www.vmgroup.pl

11th National Symposium of the Pakistan Hypertension League
October 27–28 2007
Quetta, Pakistan
Information: Prof. Abid Amin, Chairman Organizing Committee, Bolan Medical College Brewary Road, Quetta, Pakistan
Tel./Fax: (+92-812) 828 302
E-mail: phlqta@yahoo.com

WHL Council Conference
6th Asian-Pacific Congress of Hypertension and 9th International Symposium on Hypertension and Related Diseases
November 16–19, 2007
Beijing, China
Information: Secretary & c/o Xinye He Fu Wai Hospital, Beijing 100037, China
Fax: (+86-10) 6835 1990
E-mail: info@apsh2007.com

31st Scientific Meeting of the German Hypertension Society
November 21–24, 2007
Bochum, Germany
Information: Congress Secretariat Anke Maashoff, Ruhr University Bochum Medical Clinic 1 – Marienhospital Herne Hölkensampring 40, 44625 Herne, Germany
Fax: (+49-2323) 499-302
E-mail: anke.maashoff@marienhospital-herne.de
Website: www.hochdruckliga.de

22nd Scientific Meeting of the International Society of Hypertension and 18th Meeting of the European Society of Hypertension
June 14–19, 2008
Berlin, Germany
Information: Hypertension 2008 Conference Secretariat c/o K.I.T. GmbH & KG Kurfürstendamm 71, 10709 Berlin, Germany
Fax: (+49-30) 24603-200
Website: http://www.hypertension2008.com

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