

August Feature Articles

The British Hypertension Society



The **British Hypertension Society (BHS)** is a society much like our own with over 230 members formed with the aim to promote the advancement of knowledge and dissemination of information concerning the pathophysiology, epidemiology, detection, investigation and treatment of arterial hypertension and related vascular diseases within the United Kingdom. They provide a medical and scientific research forum to enable sharing of cutting edge research in order to understand the origin of high blood pressure and improve its treatment.

The **BHS** formed in the early 1980's has a strong track record of producing internationally renowned guidelines for the management of hypertension which are widely adopted in primary care in the UK and elsewhere. As part of our increasing engagement in improving blood pressure measurement they are now undertaking active validation of new blood pressure devices for the measurement of blood pressure. The Society has also established an educational programme to support scientists, doctors and other healthcare workers involved in understanding the basis of high blood pressure and improving its treatment throughout the UK. The BHS has a number of initiatives which are organised by Working Parties who report to the Executive Committee. The **BHS Information Service and Guidelines Working Party** (Chair: Professor Bryan Williams) provides information for health care professionals about hypertension (BP Measurement CD-ROM and Posters, Nurse Distance Learning Packs, ABCD Algorithm Posters, BHS Cardiovascular Medicine Research Net, Shared Care Card, Factfiles). The **BHS Educational Programmes Working Party** (Chair: Professor Mark Caulfield) develops and implements BHS Live! Events, supervises the organisation of UK Specialist Accreditation, BHS Primary Care Meetings and Masterclasses. The **BHS BP Monitoring Working Party** (Chair: Professor John Potter) advises on the validation of blood pressure monitors and is responsible for issues relating to mercury.

The Annual Scientific meeting of the British Hypertension Society.



One of their main activities is their annual scientific meeting which is held every September at a University Campus in the UK and Ireland. This year the **ANNUAL SCIENTIFIC MEETING** will be at historic **Queens' College, Cambridge** on Monday 19th September until Wednesday 21st September 2005. The meeting secretary is Mrs Gerry McCarthy (Hampton Medical Conferences Ltd,

gmccarthy@hamptonmedical.com).

Photo Left: A Cambridge Wooden Bridge in winter - built in 1749 by James Essex the Younger.

The SIR GEORGE PICKERING LECTURE will be given by past president Professor Graham MacGregor (London) "Salt – Neptune's Gift?" Professor Macgregor as

chairman of the “Group Consensus Action on Salt and Health” has been leading a strong public campaign to reduce the salt content of British foods.



Other highlights of the meeting will be a session on **ASCOT (Anglo-Scandinavian Cardiac Outcomes Trial)** entitled “Are there Implications for the BHS/NICE Treatment Algorithms?”

Photo Left : Old Hall, Cambridge, built in 1449.

The British Hypertension Society Executive



The **BHS** current president is Professor Neil R. Poulter who is the Professor Preventive Cardiovascular Medicine at Imperial College School of Medicine National Heart and Lung Institute, London. (email n.poulter@ic.ac.uk).

The **BHS** Vice-President is Professor Morris J. Brown who is a principal investigator at the Clinical Pharmacology Unit, a division of the Department of Medicine in the University of Cambridge

(Cambridge, mjb14@medschl.cam.ac.uk).

The **BHS** Secretary is Professor Alun D. Hughes, Professor of Clinical Pharmacology (Imperial College, a.hughes@imperial.ac.uk).

Past presidents include Dr. J. Robertson, Dr. J. Ledingham, Professor John Reid, Professor Peter Sever, Professor A. Lever , Professor Peter Sleight , Professor D.G. Beevers , Professor L.E. Ramsay, Professor Graham MacGregor and Professor B. Williams.



August Feature Article Part 2 : RD Wright Lecturer for 2005

Professor A F Dominiczak



Professor A F Dominiczak MD FRCP FmedSci, from the UNIVERSITY OF GLASGOW, Western Infirmary holds a British Heart Foundation Chair of Cardiovascular Medicine. Anna graduated in Medicine at the Medical School of Gdansk, Poland in 1978 and currently heads the BHF Blood Pressure Group at the University of Glasgow. She is also a Consultant Physician and Endocrinologist at the Western Infirmary and Associate Dean for Research at the Faculty of Medicine. She has a major research interest in cardiovascular genetics and vascular biology; and

holds a BHF Programme Grant “Genetic determinants of hypertension and its vascular complication: from positional candidate genes to vascular gene transfer strategies”

Her Research interests fall into 3 main areas

Molecular genetic strategies in cardiovascular and cerebrovascular disease.

Designed to unravel the susceptibility and severity genes for blood pressure regulation, left ventricular hypertrophy and the sensitivity to cerebrovascular ischaemia in a stroke prone spontaneously hypertensive model. She uses quantitative trait loci identified in experimental studies to guide the genetic analysis of human cardiovascular and cerebrovascular disease.

Endothelial function in vessels. These studies focus on a hypothesis that one of the major modifiable determinants of endothelial dysfunction is an imbalance between the nitric oxide and the superoxide anion. Her team has demonstrated that the nitric oxide-dependent endothelial dysfunction in vessels is due to excess of superoxide anion generated by the endothelium. These studies are currently being translated from bench to bedside with the use of a non-invasive vascular ultrasound technique.

Vascular gene transfer strategies. Targeted gene transfer strategies have been designed to restore the nitric oxide/superoxide balance in the HRSP in vivo and in human saphenous veins ex vivo. Her group have developed viral vectors based on recombinant adenoviruses encoding bovine and human endothelial nitric oxide synthase genes and demonstrated high levels of foreign gene expression associated with a significant improvement of endothelial nitric oxide bioavailability in functional studies. Further work in this area will address similar strategies in human vessels as well as new viral vectors and new cDNA constructs to address more thoroughly the issue of local molecular therapeutic strategies.

She has published over 160 publications including these recently:

1. Carswell HV, McBride MW, Graham D, **Dominiczak AF**, Macrae IM. Mutant animal models of stroke and gene expression: the stroke-prone spontaneously hypertensive rat. *Methods Mol Med.* 2005;104:49-74.
2. Tomaszewski M, Charchar FJ, Zukowska-Szczechowska E, Grzeszczak W, **Dominiczak AF**. Letter re: Inflammation and lipoprotein changes with protracted exercise. *J Clin Endocrinol Metab.* 2005;90:4981.
3. Miller WH, Brosnan MJ, Graham D, Nicol CG, Morecroft I, Channon KM, Danilov SM, Reynolds PN, Baker AH, **Dominiczak AF**. Targeting endothelial cells with adenovirus expressing nitric oxide synthase prevents elevation of blood pressure in stroke-prone spontaneously hypertensive rats. *Mol Ther.* 2005;12:321-7.
4. Graham D, McBride MW, Brain NJ, **Dominiczak AF**. Congenic/consomic models of hypertension. *Methods Mol Med.* 2005;108:3-15.
5. Nemoto K, Sekimoto M, Fukamachi K, Kageyama H, Degawa M, Hamadai M, Hendley ED, Macrae IM, Clark JS, **Dominiczak AF**, Ueyama T. No involvement of the nerve growth factor gene locus in hypertension in spontaneously hypertensive rats. *Hypertens Res.* 2005;28:155-63.
6. Brain N, Jr., **Dominiczak AF**. Pharmacogenomics in hypertension: present practicalities and future potential. *J Hypertens.* 2005;23:1327-9.

7. Carswell HV, **Dominiczak AF**, Garcia-Segura LM, Harada N, Hutchison JB, Macrae IM. Brain aromatase expression after experimental stroke: Topography and time course. *J Steroid Biochem Mol Biol.* 2005;96:89-91.
8. Newhouse SJ, Wallace C, Dobson R, Mein C, Pembroke J, Farrall M, Clayton D, Brown M, Samani N, **Dominiczak A**, Connell JM, Webster J, Lathrop GM, Caulfield M, Munroe PB. Haplotypes of the WNK1 gene associate with blood pressure variation in a severely hypertensive population from the British Genetics of Hypertension study. *Hum Mol Genet.* 2005;14:1805-14.
9. McCallum RW, Sainsbury CA, Spiers A, **Dominiczak AF**, Petrie JR, Sattar N, Connell JM. Growth hormone replacement reduces C-reactive protein and large-artery stiffness but does not alter endothelial function in patients with adult growth hormone deficiency. *Clin Endocrinol (Oxf).* 2005;62:473-9.
10. Collison M, James DJ, Graham D, Holman GD, Connell JM, **Dominiczak AF**, Gould GW, Salt IP. Reduced insulin-stimulated GLUT4 bioavailability in stroke-prone spontaneously hypertensive rats. *Diabetologia.* 2005;48:539-46.
11. **Dominiczak AF**, Graham D, McBride MW, Brain NJ, Lee WK, Charchar FJ, Tomaszewski M, Delles C, Hamilton CA. Corcoran Lecture. Cardiovascular genomics and oxidative stress. *Hypertension.* 2005;45:636-42.
12. McBride MW, Brosnan MJ, Mathers J, McLellan LI, Miller WH, Graham D, Hanlon N, Hamilton CA, Polke JM, Lee WK, **Dominiczak AF**. Reduction of Gstm1 expression in the stroke-prone spontaneously hypertension rat contributes to increased oxidative stress. *Hypertension.* 2005;45:786-92.
13. McCallum RW, Hamilton CA, Graham D, Jardine E, Connell JM, **Dominiczak AF**. Vascular responses to IGF-I and insulin are impaired in aortae of hypertensive rats. *J Hypertens.* 2005;23:351-8.
14. McGill JK, Gallagher L, Carswell HV, Irving EA, **Dominiczak AF**, Macrae IM. Impaired functional recovery after stroke in the stroke-prone spontaneously hypertensive rat. *Stroke.* 2005;36:135-41.

This months Feature Articles prepared by G A Head, August 2005