

**THE ADAPT CENTRE**  
**&**  
**BLOOD PRESSURE UNIT**

**Beaumont Hospital**

**ANNUAL REPORT, PUBLICATIONS**

**AND**

**SCIENTIFIC PRESENTATIONS**

**2003**

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## Introduction

### *History*

The Blood Pressure Unit was founded in collaboration with Professor Kevin O'Malley 25 years ago in the Charitable Infirmary, Jervis Street, with support provided by the Charitable Infirmary and the Royal College of Surgeons in Ireland. From the outset the Unit has concentrated on research into the pharmacology of blood pressure lowering drugs, particularly in the elderly, and on the development of blood pressure measuring techniques, especially techniques of ambulatory blood pressure measurement. To-date over 600 publications on these research areas have been produced by the Unit in peer-reviewed journals.

### *ADAPT Clinic and Centre*

The Arterial Disease Assessment Prevention and Treatment (ADAPT) Clinic was established in collaboration with Professor David Bouchier-Hayes and Professor Desmond Fitzgerald in 1997. The rationale for this unique clinic was based on the concept that disease of the arterial organ was a fundamental denominator in all cardiovascular disease. The ADAPT Clinic was established to ensure that all patients with cardiovascular disease, regardless of the speciality to which they presented, received the most comprehensive risk factor assessment with appropriate life-style modification, and that appropriate drug treatment would be directed at the arterial organ.

The ADAPT concept was further developed in 1999 with the establishment of the ADAPT Centre. This cardiovascular laboratory is equipped to perform state-of-the-art cardiovascular assessment, which includes echocardiography, electrocardiography with stress testing, Holter monitoring, applanation tonometry, pulse wave velocity analysis, 24-hour ambulatory blood pressure monitoring, beat-to-beat non-invasive blood pressure monitoring, 24-hour silent ischaemia monitoring, fundal photography and imaging, and carotid wall (intima-media thickness) imaging. Through its association with the Department of Clinical Pharmacology, the Centre for Proteomics, SURGEN, and BIOSYS at RCSI, the Laboratory can assess biochemical and genetic markers of risk, thrombosis, and endothelial damage.

The ADAPT centre is under the direction of Professor O'Brien. Senior staff include Professor Desmond Fitzgerald, Professor David Bouchier-Hayes, Dr. Patricia McCormack, Dr. Alice Stanton and Dr. Joan Moroney; the Centre is staffed by three research registrars, five research nurses, a technician, computer analyst and two secretaries.

The goal of ADAPT is to apply common protocols of risk factor management to all patients with cardiovascular disease. This has been achieved for patients with hypertension, dyslipidaemia, surgical vascular disease, stroke and transient cerebral ischaemic events and the elderly with hypertension. This year the ADAPT concept was extended to general practitioners in the RHASP (Reduction of Heart Attack and Stroke through Prevention) Pilot Project, supported by the Department of Health and Children as part of the Cardiovascular Strategy. As a consequence of these ADAPT developments the out-patient service continued to grow with over 13,000 patients attending the Blood Pressure, the Elderly with Hypertension, Stroke/TIA, Lipid, Cardiac and ADAPT Clinics.

### *Clinical Research Centre*

The ADAPT Centre continued its close collaboration with the Clinical Research Centre, and I am pleased to acknowledge with gratitude the considerable help given to ADAPT personnel by the Director of the CRC, Dr. Dermot Kenny, not only in providing research facilities, but also in making it possible to welcome and entertain overseas visitors in the Board Room. The ADAPT Centre continued to participate in the successful HEA grant awards, which will fund scientific research in the Centre.

### *DABL<sup>®</sup> Program*

The efficient outpatient management of cardiovascular disease has been achieved by utilising a management system that is dependent on a specially designed computer program - *dabl<sup>®</sup>* Cardiovascular, which has been developed over the past decade. During the year this program was further developed to include many additional functions, such as automatic generation of drug treatment and diagnoses, a flow chart, a pharmacopoeia, a scheduling system and security features.

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The *dabl*<sup>®</sup> Anticoagulant program was used to transfer 2000 patients attending the Anticoagulant Clinic from a manual to computerised system. The *dabl*<sup>®</sup> Program has also been applied to a number of research projects being conducted by the ADAPT Centre. The *dabl*<sup>®</sup> Programs are now being incorporated for cardiovascular disease management in Florence, Milan, Leuven, London, New York and many institutions and practices in Ireland.

### *The RHASP Project*

The ADAPT Centre has collaborated with the Department of Health and Children in linking the *dabl*<sup>®</sup> data base at Beaumont Hospital to six selected practices in primary care so as to transmit information on cardiovascular risk from specialist hospital clinics to primary care physicians. This project is on schedule and is due to be independently audited by Professor John Cairns from the Department of Health Economics in Aberdeen University. RHASP is bringing best management of cardiovascular disease to primary care so as to effect the 30% reduction in stroke and heart attack that has been possible in the ASCOT Study with rigorous drug treatment of hypertension and stroke. It is hope that RHASP may serve as a model to reduce Ireland's burden of cardiovascular disease, which is one of the highest in Europe.

### *Publications and communications*

In 2003 the ADAPT Centre continued to contribute to hypertension research, publishing more than 30 scientific papers, and delivering research presentations at home, in the UK, Italy, Switzerland, South Africa and the United States.

### *International collaborative research*

The ADAPT Centre continued to participate in a number of important international collaborative studies, which included the ASCOT Study (*vide infra*); completion of the Syst-Eur Phase II Study, a follow-up study of the original Syst-Eur Study to determine if calcium-channel blocking drugs are beneficial in the long-term management of isolated systolic hypertension; completion of the OvA Study, which is designed to determine if ambulatory blood pressure measurement is superior to office blood pressure in the long-term management of hypertension, and which was published in the *New England Journal of Medicine*; completion of the THOP Study, which is designed to show if less antihypertensive medication will be prescribed using self-blood pressure measurement rather than office blood pressure; the HYVET Study, which is examining the value of treating hypertension in the very elderly; and the ADVANCE Study, which explores the value of both better blood pressure and glycaemic control in non insulin dependent diabetes mellitus. Participation in these studies has necessitated collaborative research with a number of institutions and universities abroad; these include St. Mary's Hospital, London, the University of Louvain, the University of Ghent, the Hammersmith Hospital, Glasgow University, and Mount Sinai Hospital in New York.

### *ASCOT Study*

The Anglo-Scandinavian Cardiovascular Outcome Trial (ASCOT) is the largest international endeavour in which we have participated. ASCOT has recruited over 20,000 patients at high risk from cardiovascular complications of hypertension to determine which blood pressure lowering or cholesterol-lowering drug is most beneficial in preventing stroke and heart attack. Dr. Alice Stanton has supervised a team of doctors and nurses specially recruited for the ASCOT programme. The ADAPT Centre, is one of the major centres (with over 500 participating patients) in ASCOT. The Lipid Lowering arm of the study was closed prematurely because the benefit to patients receiving statin treatment was of the order of 30% reduction in heart attack and 25% in stroke compared with those patients receiving placebo. The results of this study, which has major implications for the future management of cardiovascular disease, were published in *The Lancet*. The main blood pressure limb of the ASCOT Study continues as previously. 26 sub-studies of the ASCOT Study are being co-ordinated from the ADAPT Centre.

### *Epidemiological research projects*

The Allied Irish Bank, Phase III Study, the purpose of which is to replenish the valuable genetic bank originally provided in the AIB Phase II Study, commenced and is proceeding well. The data from the Phase II Study, which will provide information for the first time on the changes in 24-hour

## Introduction

ambulatory blood pressure with age and the relationship of such change to target organ status, is being prepared for publication.

The ADAPT Centre data base contains comprehensive blood pressure data on over 26,000 patients. Risk factor data, especially for clinic and 24-hour ambulatory blood pressure measurement from some 14,000 of these patients has been carefully analysed and is now being assessed for predictive value in some 700 cardiovascular deaths in this cohort.

Other research projects conducted during the year included are listed under 'On-going Research'.

### *Working Parties*

I continued to act during the year as Chairman of the Blood Pressure Measurement Working Group of the European Society of Hypertension. Dr. Alice Stanton is Chairman of the Irish Heart Foundation Council on High Blood Pressure. I continue as a member of the EU Standards Committee on Blood Pressure Measurement, the British Standards Institute and the Association for the Advancement of Medical Instrumentation in the US. I am a member of the ASCOT Steering Committee and Chairman of the ASCOT Sub-study Committee, and Professor Desmond Fitzgerald and Dr. Alice Stanton are members of the ASCOT Genetics Committee. During the year, I was asked by WHO in Geneva to select and Chair a Committee of experts to determine how best to measure blood pressure in the Developing World. As a member of Board of the International Centre for Health and Cooperation at Fordham University, I continued to participate in humanitarian endeavours.

### *Servier Chair of Cardiovascular Pharmacology*

The Servier Chair of Cardiovascular Pharmacology, to which I was appointed in 2001, is a unique partnership between the Institute of Biopharmaceutical Sciences at the Royal College of Surgeons in Ireland and the Servier Group in Paris. The Chair was endowed with the purpose of facilitating research into the treatment and management of cardiovascular disease with a particular emphasis on risk factor management and the identification of techniques to measure cardiovascular target organ involvement. The Chair has allowed me to devote time to clinical research and particularly to providing a means for bringing the clinical facilities in Beaumont Hospital into close liaison with the laboratory facilities in RCSI to provide a unified approach to research into cardiovascular disease.

### *Websites*

The ADAPT web site ([http://www.ecf.ie/adapt\\_website](http://www.ecf.ie/adapt_website)) provides a comprehensive bibliography of publications from the Blood Pressure Unit since 1978 and it is possible to obtain PDF copies of recently published papers; frequently requested papers from earlier years are also available. The site also provides details on the *dabl*<sup>®</sup> Program and the ADAPT risk factor management system.

A website devoted to blood pressure measurement - <http://www.dableducational.com>, which was sponsored by *dabl* Limited, with support from RCSI, was launched during the year. This site clarifies the current stage of knowledge about equipment used to measure blood pressure, and provides a valuable resource for all lay and medical consumers and for those with responsibility for purchasing blood pressure devices.

### *Acknowledgements*

The research outlined in this report was facilitated by a grant from the Charitable Infirmary Charitable Trust, which has given valuable support to our research over many years and without which our many achievements would not have been possible. Research has also been funded by grants from RCSI, Imperial College, London, Servier Laboratories, HEA PRTL Cycle 3, Pfizer International, Institute for International Health, University of Sydney, Boehringer Ingelheim and MacMaster College, Department of Health and Children and the European Society of Cardiology, all of which we acknowledge with gratitude. I would like to pay tribute to the diligence and loyalty of all the staff in the Blood Pressure Unit and the ADAPT Centre, characteristics, which facilitate the team approach so necessary in scientific research.

Eoin O'Brien

31<sup>st</sup> December 2003

**The ADAPT Centre & Blood Pressure Unit**

**Staff 2003**

**Medical**

Eoin O'Brien	Milos Stojanovic
Desmond Fitzgerald	Emily Ho
David Bouchier-Hayes	Ailsa Fulton
Alice Stanton	Basil Al Aloul
Joan Moroney	Eamonn Dolan
Patricia McCormack	Sarah Sexton

**Blood Pressure Unit Nursing**

Evelyn Clark	Cora McTiernan
Dee Stoneman	Helen O'Neill

**ADAPT Centre Nursing**

David Farrell	Geraldine McCarthy
Louise Hacke	Cathal Collier
Mary Twohill	Anne Murphy

**Technical**

<i>Echocardiographer</i>	<i>Computer Analyst</i>
Simon Lyons	Neil Atkins
<i>Dieticians</i>	
Patricia Gordon / Daniel McCartney	

**Secretarial**

Valerie Hughes	Eunice Carey
Barbara Gallagher	Orla Lambe
Kim Smyth	

## SCIENTIFIC AND EDUCATIONAL PUBLICATIONS 2003

### Original papers

1. Celis H, Staessen JA, Thijs L, Buntinx F, De Buyzere M, Den Hond E, Fagard R, O'Brien E on behalf of the Ambulatory Blood Pressure and Treatment of Hypertension (APTH) trial investigators. Cardiovascular risk in white-coat and sustained hypertensive patients. *Blood Pressure* 2003;**11**:352-356
2. O'Brien E. Demise of the mercury sphygmomanometer and the dawning of a new era in blood pressure measurement. *Blood Pressure Monit* 2003;**8**:19-21
3. Den Hond E, Celis H, Vandenhoven G, O'Brien E, Staessen JA for the THOP investigators. Determinants of white-coat syndrome assessed by ambulatory blood pressure or self-measured home blood pressure. *Blood Pressure Monit* 2003;**8**:37-40
4. Den Hond E, Celis H, Fagard R, Keary L, Leeman M, O'Brien E, Vandenhoven G, Staessen JA on behalf of the THOP investigators. Self-measured versus ambulatory blood pressure in the diagnosis of hypertension. *J Hypertens* 2003;**21**:1-6
5. Stojanovic M, O'Brien E, Lyons S, Stanton A. Silent myocardial ischaemia in treated hypertensives with and without left ventricular hypertrophy. *Blood Pressure Monit* 2003;**8**:45-51
6. Sever PS, Dahlöf B, Poulter NR, Wedel H, Beevers G, Caulfield M, Collins R, Kjeldsen SE, Kristinsson A, McInnes GT, Mehlsen J, Nieminen M, O'Brien E, Östergren J, for the ASCOT investigators. Prevention of coronary and stroke events with atorvastatin in hypertensive patients who have average or lower-than-average cholesterol concentrations, in the Anglo-Scandinavian Cardiac Outcomes Trial—Lipid Lowering Arm (ASCOT-LLA): a multicentre randomised controlled trial. *Lancet* 2003;**361**:1149-1158. Published online April 2, 2003: <http://image.thelancet.com/extras/03art3046web.pdf>
7. O'Brien E, Asmar R, Beilin L, Imai Y, Mallion J-M, Mancia G, Mengden T, Myers M, Padfield P, Palatinin P, Parati G, Pickering T, Redon J, Staessen J, Stergiou G, Verdecchia P on behalf of the European Society of Hypertension Working Group on Blood Pressure Monitoring. European Society of Hypertension recommendations for conventional, ambulatory and home blood pressure measurement. *J Hypertens* 2003;**21**:821-848
8. O'Brien E. Ambulatory Blood Pressure Monitoring in the Management of Hypertension. *Heart* 2003;**89**:571-576
9. O'Brien E. et al. Integrated Management of Cardiovascular Risk. Report of a WHO Meeting. Geneva, 9-12 July 2002. Noncommunicable Diseases and Mental Health. World Health Organization. Pp. 1-35. Geneva. 2003
10. Guidelines Committee (Mancia G, Agabiti Rosei E, Cifkova CR, DeBacker G, Erdine S, Fagard R, Farsang C, Heagerty AM, Kawecka-Jaszcs K, W. Kiowski, Kjeldsen S, Luscher T, McInnes G, Mallion J-M, Mogensen CE, O'Brien E, Poulter NR, Priori SG, Rahn, KH, Rodicio JL, Ruilope LM, Safar M, Staessen JA, van Zwieten P., Waeber B, Williams B, Zanchetti A, Zannad F) 2003 European Society of Hypertension—European Society of Cardiology guidelines for the management of arterial hypertension. *J Hypertens* 2003;**21**:1011-1053
11. Guidelines Committee (Mancia G, Agabiti Rosei E, Cifkova CR, DeBacker G, Erdine S, Fagard R, Farsang C, Heagerty AM, Kawecka-Jaszcs K, W. Kiowski, Kjeldsen S, Luscher T, McInnes G, Mallion J-M, Mogensen CE, O'Brien E, Poulter NR, Priori SG, Rahn, KH, Rodicio JL, Ruilope LM, Safar M, Staessen JA, van Zwieten P., Waeber B, Williams B, Zanchetti A, Zannad F) Practice Guidelines For Primary Care Physicians: 2003 ESH/ESC Hypertension Guidelines. *J Hypertens* 2003; **21**: 1779-1786.
12. O'Brien E. Ambulatory blood pressure measurement is indispensable to good clinical practice. *J Hypertens* 2003;**21**(suppl 2):S11-S18
13. Stanton A. Potential of rennin inhibition in cardiovascular disease. *JRAAS* 2003;**4**:6-10
14. Clement DL, De Buyzere M, De Bacquer DA, de Leeuw PW, Duprez DA, Fagard RH, Gheeraert PJ, Missault LH, Braun JJ, Six RO, Van Der Niepen P, O'Brien E for the Office versus Ambulatory Blood Pressure (OvA) Study Investigators. Prognostic Value of Ambulatory Blood-Pressure Recordings in Patients with Treated Hypertension. *New Eng J Med* 2003.**348**:207-215

15. O'Sullivan C, Duggan J, Lyons S, Thornton J, Lee M, O'Brien E. Hypertensive Target-Organ Damage in the Very Elderly. *Hypertension*. 2003;42:130-135
16. O'Brien E. A website for blood pressure measuring devices:dableducational.com. *Blood Pressure Monit* 2003, **8**:177-180
17. Den Hond E, Staessen JA on behalf of the APTH and THOP investigators. Relation between left ventricular mass and systolic blood pressure at baseline in the APTH and THOP trials. *Blood Press Monit* 2003, **8**:173-175
18. Dolan E, Atkins N, McClory S, Hinedi K, Sharifa S, McCormack P, Staessen J, Thijs L, Stanton A, O'Brien E. Ambulatory blood pressure measurement as a predictor of outcome in an Irish population: methodology for ascertaining mortality outcome. *Blood Pressure Monit* 2003, **8**:143-145
19. O'Sullivan C, Duggan J, Atkins N, O'Brien E. Twenty-four-hour ambulatory blood pressure in community dwelling elderly men and women, aged 60-102 years. *J Hypertens* 2003, **21**:1641-1647
20. Little MA, O'Brien E, Owens P, Holian J, Kenny S, Mee F, Walshe JJ. A Longitudinal Study of the Yield and Clinical Utility of a Specifically Designed Secondary Hypertension Investigation Protocol. *Renal Failure* 2003;**25**:709-717
21. Stanton A, Jensen C, Nussberger J, O'Brien E. Blood Pressure Lowering in Essential Hypertension with an Oral Renin Inhibitor, Aliskiren. *Hypertension* 2003;**42**:1137-1143
22. O'Brien E, Atkins N, Murphy A, Lyons S. Validation of the ROSSMAX blood pressure measuring monitor according to the European Society of Hypertension International Protocol for Validation of Blood Pressure Measuring Devices in Adults. *Blood Press Monit* 2003;**8**: 261-265
23. O'Brien E, Atkins N, Murphy A, Lyons S. Validation of the TONOPORT V ambulatory blood pressure monitor according to the European Society of Hypertension International Protocol for Validation of Blood Pressure Measuring Devices in Adults. *Blood Press Monit* 2003;**8**:255-260
24. Bulpitt CJ, Beckett NS, Cooke J, Dumitrascu DL, Gil-Extremera, Nachev C, Nunes M, Peters R, Staessen J, Thijs L on behalf of the Hypertension in the Very Elderly (HYVET) Working Group. *J Hypertens* 2003;**21**:2409-2417
25. Pringle E, Phillips C, Thijs L, Davidson C, Staessen JA, de Leeuw PW, Jaaskivi M, Nachev C, Parati G, O'Brien ET, Tuomilehto J, Webster J, Bulpitt CJ, Fagard R, on behalf of the Syst-Eur investigators. Systolic blood pressure variability as a risk factor for stroke and cardiovascular mortality in the elderly hypertensive population. *J Hypertens* 2003;**21**:2251-2257
26. Wood JM, Maibaum J, Rahuel J, Grütter MG, Cohen N-C, Rasetti V, Rüger H, Göschke R, Stutz S, Fuhrer W, Rigollier SP, Yamaguchi, Y, Cumin F, Baum H-P, Schnell C-R, Herold P, Mah R, Jensen C, O'Brien E, Stanton A, Bedigian MP. Structure-based design of aliskiren, a novel orally effective renin inhibitor with antihypertensive efficacy in human patients. *Biochemical and Biophysical Research Communications* (BBRC) 2003;**308**:698-705
27. Ho E, Stanton A. The role of the microcirculation in hypertension. *Medicographia* 2003; 25: 1-7.
28. Stanton AV Therapeutic potential of renin inhibitors in the management of cardiovascular disorders. *Am J Cardiovasc Drugs* 2003; 3: 389-94.

#### **Editorials**

1. Verdecchia P, O'Brien E, Pickering T, Staessen JA, Parati G, Myers M, Palatini P on behalf of the European Society of Hypertension Working Group on Blood Pressure Monitoring. When to suspect white coat hypertension? Statement from the Working Group on Blood Pressure Monitoring of the European Society of Hypertension. *Am J Hypertens* 2003;**16**:87-91
2. O'Brien E. The Working Group on Blood Pressure Monitoring of the European Society of Hypertension. *Blood Pressure Monit* 2003;**8**:17-18
3. O'Brien E. Ambulatory blood pressure measurement is indispensable to good clinical practice. *Br J Cardiol* 2003;**10**:110
4. O'Brien E. Ambulatory blood pressure measurement is now indispensable to the good clinical management of hypertension. *Cardiovascular J South Africa* 2003;**14**:157-163



5. O'Brien E. Blood pressure measurement in hypertension research. A workshop of the European Society of Hypertension. *Blood Pressure Monit* 2003;**8**:141-142

***General and Educational***

1. Stanton A. Managing hypertension. *Practitioner* 2003;**247**:712-715
2. O'Brien E. Farewell to the Journal of the Irish Colleges of Physicians and Surgeons. *J Irish Colleges Phys Surg* 2003;**32**:3-5
3. O'Brien E. Human rights and the making of a good doctor. In: *Traditions, Values and Humanitarian Action*. Ed. Kevin Cahill. International Humanitarian Series. Fordham University & Center for International Health and Cooperation. New York. 2003. pp. 136-152
4. O'Brien E. A review of recent guidelines on hypertension. *Irish Medical News* September 2003;44 & 52
5. Stanton A, O'Brien E. Lowering lipid levels in hypertension. *Irish Medical News* September.2003;36

**SCIENTIFIC AND EDUCATIONAL COMMUNICATIONS 2003**

**Council on High Blood Pressure of the Irish Heart Foundation. Symposium: Management of Hypertension: Do changes in diet and lifestyle work? Cork. 17<sup>th</sup> January 2003**

Stanton A. Chairman.

O'Brien E. *Blood pressure measurement and assessment of the hypertensive patient.*

**Symposium: Hypertension and quality of Life: just what the patient ordered. Galway. 22<sup>nd</sup> January 2003**

O'Brien E. *Inaccurate blood pressure measurement leads to inappropriate management.*

**Symposium: Hypertension and quality of Life: just what the patient ordered. Kilkenny. 12<sup>th</sup> February 2003**

O'Brien E. *Inaccurate blood pressure measurement leads to inappropriate management.*

**South African Society of Hypertension. Durban. 14 – 18<sup>th</sup> March 2003**

O'Brien E. Advances in BP measurement and white coat hypertension.

O'Brien E. Comprehensive guideline on blood pressure measurement. European Society Guidelines

**American College of Cardiology. Chicago. 31<sup>st</sup> March 2003**

Sever P on behalf of the Steering Committee. The Anglo-Scandinavian Cardiac Outcomes Trial: Morbidity-Mortality Outcome from Lipid-Lowering in a Hypertensive Population.

**Lipitor National Faculty Speaker Meeting, Texas, USA, April 2003.**

Stanton A. "Statins in the Prevention of Cardiovascular Events – Implications of Recently Reported Endpoint Trials."

**Heartwise Annual Cardiovascular Symposium. Kilkenny. 11<sup>th</sup> – 12<sup>th</sup> April 2003**

O'Brien E. Chairman

O'Brien E. When is high blood pressure hypertension?

**Blood Pressure Measurement in clinical Practice: a Collaborative Meeting on Clinical Requirements v Manufacturing Capabilities. Paris. France. 28<sup>th</sup> April 2003**

Chairman: E. O'Brien

O'Brien E. Is there a future for the mercury sphygmomanometer?

O'Brien E. A website for blood pressure measuring devices.

**Pfizer Annual Presentation on Cardiovascular Disease. K-Club. Kildare.**

O'Brien E. The ASCOT Trial: Implications for Clinical Practice.

**Irish Cardiac Society Cardiology Up-date. Erne Hospital. The Ardhowen Theatre. Enniskillen, Co. Fermanagh. 6<sup>th</sup> June 2003.**

O'Brien E. Ambulatory BP Monitoring is Mandatory in 21<sup>st</sup> Century Practice?

**Thirteenth European Meeting on Hypertension. Congressi Center, Fiera, Milan. June Tuesday 13<sup>th</sup> to Saturday 17<sup>th</sup>.**

J.A. Staessen, E. Den Hond, H. Celis, R. Fagard, G. Vandenhoven, E.T. O'Brien, on behalf of the THOP Investigators. Antihypertensive treatment based on conventional or home blood pressure measurement – THOP trial.

Milos Stojanovic, Simon Lyons, Neil Atkins, Eoin O'Brien, Jan Staessen & Alice Stanton. Clinic pressures underestimate daytime ambulatory blood pressure (ABPM) in young and overestimate daytime ABPM in middle-aged subjects. The Allied Irish Bank Study.

Dolan E, O'Brien E, Stanton A, Atkins N, McClory S, etc. The *dabl* database: methodology

**Atorvastatin Investigators Meeting. Dublin. 20<sup>th</sup> September 2003.**

O'Brien E. ASCOT Sub-studies

Stanton A. Cardiovascular Phenotypic Studies in ASCOT.

**European Council of Cardiovascular Research, Seeheim, Germany. October 10-12<sup>th</sup> 2003.**

Moore N, Stojanovic M, Lyons S, O'Brien E, O'Brien J, Stanton A. A newly discovered polymorphism in the renin gene enhancer region is associated with elevated ambulatory BP levels in a large community population.

**Eurostage Clinical Cardiovascular Genetics Meeting, Dublin, Ireland, October 2003.**

Stanton A. Why have Genetic Studies of the Renin Angiotensin System been Disappointing?

**Servier Symposium. EUROPA. Dublin. 22<sup>nd</sup> October 2003.**

O'Brien. E. Chairman

**Healthcare Informatics Society of Ireland. 8<sup>th</sup> Annual Conference and Scientific Symposium. Dublin. 12<sup>t</sup> – 15<sup>th</sup> November 2003**

O'Brien E. A shared care approach to the management of cardiovascular disease: the RHASP project (Reduction of Heart Attack and Stroke through Prevention): A Cardiovascular Strategy Initiative.

O'Neill G. Computerised management of an anticoagulant clinic using *dabl Anticoagulant*.

Grogan L. The use of ABPM in clinical practice could be greatly facilitated by two developments: Standardisation and Physician Assisted Interpretative Reports.

**American Heart Association November 2003**

Ariff B, Zambanini A, Vamadeval S, O'Neill A, Xu XY, Sever P, Stanton A, Hughes A, Thom S. Differing effects of candesartan cilexetil & atenolol on carotid artery remodelling & carotid blood flow in hypertension.

**Fourth Angiology Society Congress. Strand House Hotel, The Curragh. Ireland. 28<sup>th</sup> – 29<sup>th</sup> November 2003**

Moore N, Stojanovic M, Lyons S, O'Brien E, Shields D, O'Brien J, Stanton A. A newly discovered polymorphism in the renin gene enhancer region is associated with elevated ambulatory BP levels in a large community population

Ho E, Rooney C, Harhen B, Sever P, Hughes A, Thom S, Poulter N, Mayet J, O'Brien E, Fitzgerald DJ, Stanton A. Effect of Aspirin and Atorvastatin on Thromboxane Formation in a Large Cohort of Hypertensive Patients with Normal to Mildly Raised Cholesterol.

Al Aloul B, Fulton A, Ch'ng E, Witt N, Thom S, Hughes A, O'Brien E, Stanton A. Acute effects of hyperoxia, hypoxia and hypercarbia on retinal arteriolar and venular diameters.

**Treating to Target. Anglo-Irish Meeting. Dublin. 28<sup>th</sup> – 30<sup>th</sup> November 2003**

O'Brien E. When is high blood pressure hypertension?

**Hypertension in Europe – Unity in Diversity. Irish-German Meeting. Dublin. 6<sup>th</sup> December 2003.**

O'Brien E. When is high blood pressure hypertension?

**ON-GOING RESEARCH 2003**

<b>1. CARDIOVASCULAR GENETICS</b>		
	<b>Project</b>	<b>Comment</b>
<b>1</b>	<b>ASCOT Pheno-Geno Study</b> <b>ASCOT Sub-study:</b> An intensive phenotyping study to enable the future examination of genetic influences on hypertension associated cardiovascular disease – an ASCOT sub-study	Effect of aspirin and atorvastatin on thromboxane formation in a large cohort of hypertensive patients with normal to mildly raised cholesterol.
<b>2</b>		Determinants and consequences of increased isoprostane formation in hypertensive patients despite optimal medical management.
<b>3</b>	<b>Renin and ACE2 Gene Study</b> Genetic variants in the genes for renin and ACE2: Influences on BP levels, on responses to blockade and on atherosclerosis.	A newly discovered polymorphism in the renin gene enhancer region is associated with elevated ambulatory BP levels in a large community population.
<b>4</b>		Study of renin gene polymorphisms, plasma renin activity and responses to rennin blockade
<b>5</b>	<b>Genetic Variance in Oxidant Stress –</b> Studying the impact on Atherosclerotic Burden	Novel single nucleotide polymorphisms detected by dHPLC variant scanning in Xanthine Oxidoreductase
<b>6</b>		Effects of promoter and coding polymorphisms in Xanthine Oxidoreductase on uric acid levels and on blood pressure.
<b>7</b>		Influence of Oxidant Stress on Enzyme Genetic Variance
<b>8</b>		Isoprostane formation and Carotid Intima-media Thickness
<b>9</b>	<b>Allied Irish Bank Study Phase III</b>	Collection of DNA from 1000 normal subjects in the Allied Irish Bank, 600 of whom have been previously phenotyped

<b>2. MEASURES OF CARDIOVASCULAR RISK AND TARGET ORGAN DAMAGE</b>		
	<b>Project</b>	<b>Comment</b>
<b>10</b>	<b>The eye as a window to the arterial system</b> An in vivo study of the human microvascular endothelial function.	Acute effects of hyperoxia, hypoxia and hypercarbia on retinal arteriolar and venular diameters
<b>11</b>		Effects of nitric oxide synthase and cyclooxygenase inhibition on retinal vascular reactivity – a novel non-invasive measure of endothelial function
<b>12</b>		Retinal vascular reactivity reflects coronary artery endothelial dysfunction
<b>13</b>	<b>Endothelial dysfunction in stroke patients</b>	Large vessel and microvascular endothelial dysfunction post acute ischaemic stroke
<b>14</b>	<b>Retinal Vascular Geometry in Glaucoma</b>	Assessment of retinal arteriolar and venular diameters in Glaucoma
<b>15</b>	<b>Retinal Vascular Geometry in Schizophrenia</b>	Abnormalities and asymmetry of retinal vasculature in people with schizophrenia

<b>3. EPIDEMIOLOGY OF AMBULATORY BLOOD PRESSURE</b>		
	<b>Project</b>	<b>Comment</b>
<b>16</b>	<b>The Allied Irish Bank Study. Phase II.</b>	A longitudinal study of changes in ambulatory BP parameters in a healthy population Patterns of age-related changes in ambulatory blood pressure parameters in 600 normal volunteers.
<b>17</b>	<b>ASCOT ABPM Sub-study</b>	24-h ambulatory BP control as a predictor of outcome in treated hypertensive patients - a sub-study of ASCOT to assess the effect of Atorvastatin on ambulatory BP parameters in the active and placebo limbs of the Lipid Lowering Arm of the ASCOT Study
<b>18</b>	<b>dabl Data base Outcome Study</b>	An outcome study to determine office and 24-hour ABPM blood pressure predictors of mortality in 700 cardiovascular deaths in 14,000 patients with hypertension followed from 1980 to 2002
<b>19</b>	<b>The OvA (Office versus Ambulatory Blood Pressure Measurement): ABPM in management of hypertension</b>	An on-going analysis of data from the OvA Study, the main results so which were published in <i>NEJM</i> 2003

<b>4. EFFECTS OF MANAGEMENT AND THERAPY</b>		
	<b>Project</b>	<b>Comment</b>
<b>20</b>	<b>Efficacy of Renin Inhibition in Essential Hypertension</b>	Blood pressure lowering in essential hypertension with an oral rennin inhibitor, aliskiren
<b>21</b>	<b>CACHET - A comparison of the effects of antihypertensive treatment with angiotensin II blockade and beta-blockade on carotid wall structure and haemodynamics</b>	Determinants of the differential patterns of carotid artery and left ventricular remodelling by candesartan and atenolol in hypertension.
<b>22</b>	<b>Anglo Scandinavian Cardiac Outcomes Trial (ASCOT).</b>	An on-going study of the efficacy of different blood pressure lowering agents in 20,000 moderate risk patients with hypertension
<b>23</b>	<b>Action in Diabetes and Vascular Disease, Preterax and Diamicron MR Controlled Evaluation. (ADVANCE) Main Study</b>	A study of best management of cardiovascular risk in diabetic patients
<b>24</b>	<b>The RADOX Study: a Sub-study of ADVANCE</b>	A study of the effects of blood pressure lowering and blood glucose lowering on oxidative stress (urinary isoprostanes) among individuals with Type 2 diabetes
<b>25</b>	<b>The AdRem Study: Action in Diabetes and Vascular Disease Retinal Measurements Study - a Sub-study of ADVANCE</b>	A study of the effects of blood pressure lowering and glycaemic control on the retinal microvasculature
<b>26</b>	<b>OnTarget Study (ONgoing Telmisartan Alone and in combination with Ramipril Global Endpoint Trial)</b>	A study of the effects single and combination therapy in subjects with cardiovascular disease.
<b>27</b>	<b>TRANSCEND Study (Telmisartan Randomized Assessment Study in ACE intolerant subjects with cardiovascular Disease)</b>	A study of the effects of Telmesartan in subjects in subjects with cardiovascular disease who are intolerant to ACE inhibitors.
<b>28</b>	<b>The HYVET Study. Hypertension in the Very Elderly</b>	Evaluation of antihypertensive medication with Indapamide in the very elderly (over 80 years)

5. COMPUTERISATION AND MEASUREMENT		
	Project	Comment
29	<b>The RHASP (Reduction of Heart Attack and Stroke through Prevention) Pilot Study</b>	A Department of Health sponsored pilot project to assess the feasibility of a shared care approach to the management of cardiovascular disease between general practice and a specialised centre using a common <i>dabl</i> cardiovascular data base.
30	<b>Pragmatic randomised trial of different measurements of blood pressure for white coat hypertension in primary care</b>	A collaborative study with general practices in the UK to determine the detection of white coat hypertension using different measurement techniques.
31	<b>ASCOT: Sub-study: Omron Audit in ASCOT</b>	An ASCOT sub-study to assess the use of an automated device – OMRON CP-707 – in a large multicentre clinical trial
32	<b>Conduit Artery Functional Endpoint Study (CAFÉ Study)</b>	A sub-study of the ASCOT Study to determine the role of Applanation Tonometry in the ASCOT Study
33	<b>The international ABPM database</b>	A collaborative international study co-ordinated by Professor T. Pickering in Mount Sinai Hospital to establish an international data base of ABPM
34	<b>Computerised systems for Out-patient Management: <i>dabl</i> and ADAPT</b>	Computerisation of cardiovascular clinics to integrate management in the ADAPT, Blood Pressure, Lipid, Elderly, Stroke and TIA and Vascular Surgical Clinics in Beaumont Hospital.
35	<b>Computerised system for Management of anticoagulant Clinics: <i>dabl</i> Anticoagulant</b>	Development and application of a computerised management system for 2000 patients attending the Anticoagulant Clinic at Beaumont Hospital.
36	<b>Computerised system for Ambulatory Blood Pressure Measurement in hospital and general practice: <i>dabl</i> ABPM</b>	Development of a computer program to analyse and interpret ABPM to facilitate introduction of the technique to general practice
37	<b>Computerised system for Blood Pressure Measurement in Clinical Trials: <i>dabl</i> Research</b>	Development of a computer program to standardise blood pressure measurement in clinical trials
38	<b>Development of the Sphygmocorder</b>	A collaborative venture with Bang & Olufsen Medicom to develop the Sphygmocorder for audio-visual evaluation of blood pressure measurement during device validation
39	<b>Establishment of a website for blood pressure measurement: <a href="http://dableducational.com">dableducational.com</a></b>	The establishment of a website devoted to blood pressure measurement to facilitate the availability of information on device accuracy for lay and medical consumers – <a href="http://dableducational.com">dableducational.com</a>
40	<b>Validation of blood pressure measuring devices</b>	The ADAPT Centre is the leading centre world-wide for the evaluation of blood pressure measuring device according to international protocols
41	<b>Specification of blood pressure measuring device for the developing world</b>	A WHO initiative to produce a specification for a blood pressure measuring device for the developing world and to oversee its manufacture.

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