

Dear Fellow Clotter

The Auckland HAA 2010 meeting appeared to be a great success as an attendee. The speakers were informative and all sessions were well attended. There were several events of note. This newsletter publishes the winners of the ASTH prizes and there were also two nominations for life membership of ASTH. The background to these two appointments are also included for the benefit of those members unable to attend the meeting.

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NEW MEMBERS

The ASTH would like to welcome the following members who have joined since the last newsletter:

Dona Madola
Yii-Sen Wee
Victoria Pechy
Rajiv Subramanian
Margaret Hammond
Lucy Goff
Susan Duncan
Zainab Al-Fana Alarimi
James Gray
Genia Burchall
Peta Dennington
Mark Bishton
Mandy Davis
Rhonda Lucas

We would also like to welcome those new members who wish to keep their contact details private.

STOP PRESS

ASTH is pleased to announce a new corporate sponsor – Beckman Coulter.

ASTH COUNCIL 2009-2011

Claire McLintock	President	clairemcl@orcon.net.nz
Douglas Coghlan	Vice President	douglas.coghlan@flinders.edu.au
Huyen Tran	Secretary & Treasurer	huyen.tran@med.monash.edu.au
Peter Wood	Newsletter Editor	peter_wood@health.qld.gov.au
Grace Gilmore	Chair, New & Emerging Technologies Group	grace.gilmore@health.wa.gov.au
Jenny Curnow	Co-Chair, Scientific Program Committee	jennifer.curnow@sswahs.nsw.gov.au
Ali Bianchi	Council member	alessandra.bianchi@sswahs.nsw.gov.au
Sanjeev Chunilal	Co-Chair, Scientific Program Committee	sanjeev.chunilal@southernhealth.org.au

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A WORD FROM THE PRESIDENT

Happy New Year to you all! This new decade has already been a year of extremes: wild weather on both sides of the Tasman but definitely a tad wilder on the Australian side. On behalf of ASTH, I would like to send our sympathies to those who have been affected by the severe flooding in Australia.

2010 was a busy and successful year for the Society. The HAA meeting was, from my point of view, a huge success and all the hard work and effort that went into enjoying it seemed to pay off. I would like to especially thank our international guests: Mike Greaves, Marc Rodgers and Andreas Greinacher who made a major contribution to the meeting not only with their superb talks but also the Masterclasses and their attendance at the social events and sessions where they weren't speaking.

We are very fortunate to be able to attract such accomplished keynote speakers to our meetings. They all told me how impressed they were with the format of the meeting and the caliber of the sessions and this is of course directly due to the excellent New Zealand and Australasian clinicians and scientists who present at the meeting. Thank you to you all.

Putting together the scientific programme was no mean feat and would not have been possible without help from Laura Young from Auckland – thank you Laura. It was also great fun compiling the social programme – I hope you all had fun and enjoyed the Welcome Ceremony and the Conference Dinner as much as I did. Apologies to those who found the music too loud – we will provide earplugs next time! And, last but not least, thank you also to all the sponsors, without whom the meeting would not be possible.

The ASTH Thrombosis and Haemostasis Workshop also proved to be popular. Thank you to Christine Algie, Simon Jones and Neil van de Water from Auckland and to Grace Gilmore for developing the programme and organizing the day and to all of our sponsors again for facilitating what is proving to be a hugely popular workshop.

The AGM voted unanimously to confer honorary life membership to Elizabeth Berry and John Lloyd – further information is provided in articles later in the newsletter.

ASTH Council has endorsed the recommendation from the Science & Education Trust trustees to award a grant of \$5,000 to Brian Dale to assist with travel costs to Hamilton, Canada where he will undertake research with John Eikelboom in the development of a global assay in haemostasis and the development of an endogenous thrombin potential assay. All members of ASTH are encouraged to apply for funds from this grant set up to support investigators who wish to develop a career in the field of thrombosis and haemostasis.

After the HAA, we also received the exciting news that Beckman Coulter agreed to be a corporate sponsor for ASTH – thank you! On more sponsorship news, CSL also in 2010 agreed to sponsor a working party to review the warfarin reversal guidelines. The working party is being chaired by Huyen Tran from Melbourne and the first meeting of the working party, with representatives from Australia and New Zealand should take place soon in Melbourne. The "Venous Thromboembolism in Pregnancy Guidelines" are also complete and I am hopeful that they will be accepted for publication – in one form or another – either in a journal or online as a free resource.

So 2011 is likely to be another busy year for us all. The ISTH Meeting in Kyoto is an exciting prospect and the team organizing the ASTH Workshop and HAA in Sydney are well on track – see you there! On a personal front, I will be attending the 4th Women's Health Issues in Thrombosis and Haemostasis Conference in Berlin from 4th-6th February where I will be talking about anticoagulant management of pregnant women with mechanical heart valves and will also present at the Pathology Update in Melbourne and the SSC meeting in Kyoto on Obstetric Haemorrhage.

I look forward to seeing many of you at some point in the year. Take care until then!

Claire McLintock

SECRETARIAT NEWS

The Workshop was a resounding success. I heard many positive comments during the course of the day and the analysis of the feedback has also confirmed that delegates thought it was a great day. There were inevitably some things we could have done better and we'll work hard on these for next year. Food – surprisingly – continues to attract a lot of both positive and negative comments but it was also clear that we need to make more of the poster session. But of course, as much as we can promote this, we still need delegates to submit their abstracts – so perhaps now is a good time to contemplate contributing

to next year's Workshop with a poster – you know how quickly the time will fly! The support for the Workshop from the New Zealand T&H community was outstanding with a large number of local delegates attending.

And it's also timely to note the time of the next Workshop, Saturday 29th October, in Sydney.

Council announced the first award from the Science & Education Trust at the AGM. The Trust was set up in 2007 using a donation from the local organizing committee of the ISTH meeting, held in Sydney the previous year.

SECRETARIAT NEWS (CONTINUED)

Brian Dale has been awarded a grant of \$5,000 to assist with travel costs associated with his travel to Hamilton, Canada to undertake research with John Eikelboom in the development of a global assay in haemostasis and the development of an endogenous thrombin potential assay. The application form for the Science & Education Trust grants is available on the web site.

The Society has recently awarded life membership to two prominent clotters, Elizabeth Berry and John Lloyd. You can read more about their outstanding careers elsewhere in the newsletter. But on a personal note, I would like to thank John, who was responsible for my involvement in AHCD, and subsequently ASTH.

As foreshadowed at the AGM, Council will recommend changes to the Articles of Association 2011 which will actually bring the Articles in to line with our current practice of having ordinary and associate membership – a retired membership category will also be proposed.

Finally, at the time of writing there are still a number of outstanding membership fees. If you have forgotten to return your forms please do so now – before you forget again!

Megan Sarson

ASTH SCIENTIFIC WORKSHOP REPORT 2010 AUCKLAND

The ASTH Scientific Workshop was held on Saturday 16th October at Auckland City Hospital. The 95 delegates were treated to an excellent venue and food and a chance to catch up with colleagues.

We were also there for the presentations. We started with a refresher on the aPTT by Heather Signorini that gave us a good grounding for the following talks. Christine Algie took us through some case studies involving prolonged aPTT and showed the importance of family history. Simon Jones gave us an update on Factor XII and why we can't forget about it.

After morning tea, Neil Van de Water showed us how Factor XI looks like a cup and saucer and how levels don't explain bleeding severity. Laura Young gave a presentation on Protein Z dependent protease inhibitor and its effects on Xa and XIa. Jackie Williams finished with a case study of a poor woman who because of poor communication was shovelled from one department to another. This highlighted how a lot of times we work in the dark because we are not told history and medications.

Our international speaker this year was Prof. Mike Greaves. He presented the confusion in diagnosing antiphospholipid syndrome. This was well demonstrated

by Roslyn Bonar who went through the Lupus investigation QAP we all did earlier in the year. We finished the session with an interesting talk on thrombophilia testing by Joyce Low.

In our final session, we diverted slightly to the world of NAIT presented by Annette Le Vielez. We finished with two similar case studies by Jesper Jensen which showed how previous history and recommendations were not followed up causing life threatening problems down the road.

Many thanks to all of our speakers for their excellent and thought provoking presentations.

The day ended with a sundowner kindly sponsored by Beckman Australia.

This year poster prize went to A. Ghevondian from the Royal North Shore Hospital.

I would like to thank the crew in Auckland, Claire McLintoch, Christine Algie and Simon Jones for all their work in putting the day together.

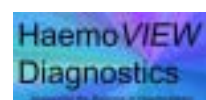
I would also like to thank our sponsors for their continuing support. Many thanks to Helena for once again producing the Workshop CD.

Grace Gilmore

ASTH WORKSHOP SPONSORS



CSL Bioplasma



2010 ASTH AWARD WINNERS

ASTH Medal Winner 2010

Mark Bishton (winning abstract below)

ASTH Medal Runners Up

Reanu Gopal (Institute of Medical and Veterinary Science, SA): *Thrombin Generation in Mild and Moderate Haemophilia A*

Marc Ramsperger (Canterbury District health Board, NZ): *Molecular characterisation of the immune response to Factor VIII (FVIII) in haemophilia A patients*

ASTH Travel Grant Winners

Reanu Gopal, Eileen Merriman, Jian-Lin Qiao, Marc Ramsperger, Caroline Reddel, Rajiv Subramanian

ASTH Poster Prize

Laboratory

Lisa Lincz (Cavery Mater Newcastle): *Circulating platelet Microparticle Levels Correlate with %FVL in Carriers of FVL*

Clinical

Eileen Merriman (Monash Medical Centre): *Distal (Calf Vein) DVT: A treatment Paradigm*



ASTH Medal Winner for 2010 Mark Bishton receiving his award from Claire McLintock.

2010 ASTH MEDAL WINNING ABSTRACT

Histone deacetylase inhibitors cause thrombocytopenia by inhibiting platelet shedding by megakaryocytes, potentially via increased Rho GTPase-mediated phosphorylation of myosin light chain.

Bishton M¹, Prince M^{2,3}, Harrison S^{2,3}, Martin B¹, Henley K⁴, James C⁴, Kile B⁴, Johnstone R¹

1 Cancer Research Immunology, 2 Dept of Haematology and Medical Oncology, Peter MacCallum Cancer Centre, Melbourne, 3 University of Melbourne, Parkville, Melbourne, 4 Molecular Medicine Division, The Waite and Eliza Hall Institute, Melbourne

Histone deacetylase inhibitors cause thrombocytopenia by inhibiting platelet shedding by megakaryocytes, potentially via increased Rho GTPase-mediated phosphorylation of myosin light chain. Histone deacetylase inhibitor (HDACi)-induced thrombocytopenia (TCP) can be recapitulated in C57BL/6 mice treated with the HDAC 1/2 selective HDACi romidepsin and the pan-HDACi panobinostat.

We have demonstrated TCP is not due to myelosuppression, but decreased platelet release from megakaryocytes based on: 1) platelet half-life studies utilizing NHS-biotin to label circulating platelets, and reticulated platelet assays using thiazole orange staining, 2) studies in *Bak*^{-/-} and *Bak*^{-/-}*Bax*^{-/-} bone marrow reconstituted mice which excluded HDACi-induced platelet apoptosis, and 3) bone marrow (BM) sections showing increased megakaryocyte (MK) number in mice treated with HDACi compared to controls. Increases in thrombopoietin (TPO) were seen in thrombocytopenic mice, and using *c-Mpl*^{-/-} mice we demonstrated that TPO is required for the MK hyperplasia and rebound thrombocytosis seen on treatment cessation. We were able to overcome HDACi induced TCP by administering the mouse-specific TPO-

mimetic AMP-4, which improved platelet numbers to levels similar to untreated controls. To further elucidate the pathway causing reduced platelet production, we used the human MK cell line Meg-01 and primary MK derived from fetal liver cells stimulated with TPO.

Proplatelet assays of primary MK show 1) a reduction in proplatelet extensions following HDACi exposure and 2) a dose dependent increase in the phosphorylation of myosin light chain (MLC). The phosphorylation status of the MLC (pMLC) is regulated by the Rho GTPase family, of which Rac1/CDC42, acting via PAK1 are postulated to have opposing actions to RhoA which is known to increase pMLC and reduce proplatelet formation. Western blots of lysates from Meg-01 and primary cells showed a reduction in protein levels of all three family members following HDACi. We are currently undertaking studies to confirm transcriptional repression of these proteins. Our report is the first to demonstrate the effects of HDACi on the Rho GTPase family and their subsequent downstream effects on myosin light chain and proplatelet elaboration. These drugs are set to provide a unique insight into fundamental megakaryocyte biology, with implications far beyond anti-cancer therapy.

CANDIDATES FOR NOMINATION OF LIFE MEMBERSHIP OF ASTH

ELIZABETH WAUGH BERRY MD; FRACP; FRCPA; QSO

Elizabeth graduated in medicine from the University of Otago (1960) and did initial post graduate work in Christchurch. Fred Gunz, co-author of the landmark textbook 'Leukaemia' (with William Dameshek), was the haematologist in Christchurch at that time prior to his appointment to the Kanematsu Institute in Sydney. She continued her training in Boston (with William Maloney) undertaking studies in cytogenetics during a period when the potential implications of chromosomal abnormalities in haematological disorders had begun to be realised. She continued this interest when she moved to the United Kingdom as a Lecturer in Haematology in Edinburgh. This work resulted in her thesis entitled 'Cytogenetic Studies in Myeloproliferative Disorders and other potentially Leukaemic States completing the requirements for her MD (1971).

For family reasons she moved onto Oxford where she received Wellcome Trust Funding "to investigate thrombosis" at the Radcliffe Infirmary (under Alan Sharpe). It was while she was at Oxford that she first became exposed to haemophilia, at the Oxford Haemophilia Centre, and practitioners such as Rosemary Biggs, Leon Poller and Ethel Bidwell. This was Elizabeth's introduction to "comprehensive care" of haemophilia.

She returned to New Zealand in the early 1970s initially as a pathologist at the Auckland City Hospital with responsibility for cytogenetics.

Prior to this time the New Zealand Haemophilia Society (NZHS), now the Haemophilia Foundation of NZ, had been lobbying the Auckland Hospital Board to establish a management centre for haemophilia care. In 1974 these efforts were eventually rewarded when the Board resolved to establish a Haemophilia Centre at Auckland Hospital using existing accommodation and staff. This was the first in New Zealand and Elizabeth became involved playing a pivotal role in the establishment of this facility. She subsequently served as its director for many years. She began by proposing a committee of existing hospital staff who were already taking an interest in haemophilia including an orthopaedic surgeon, a paediatrician and herself, with support from a dentist and a physiotherapist.

The "Centre" was opened in 1975 in a relatively public open space area on the 6th floor (Ward 6A) of the then new Auckland Hospital building. This ward, initially shared with general medicine, had a small number of

haematology speciality beds and allowed for the acute management of haemophilia related bleeding for both children and adults providing out of hours access to nursing staff expert with IV line insertion. It provided a destination for patients to bypass the normal casualty (A & E) department and was soon staffed by a full time nurse. In the early years this centre, and Elizabeth herself, acted as a national resource for haemophilia management.

She pioneered the introduction of home therapy for New Zealand patients, initially using cryoprecipitate, and in 1977 along with Graeme Woodfield (Director of the Auckland Transfusion Service), and the first haemophilia outreach worker, she began compiling a national haemophilia register for the purpose of planning for future blood product requirements. This included ensuring sufficient product was available for surgical procedures.

She quickly saw the need to empower and educate patients with this relatively uncommon disorder. She was an active committee member of the NZHS for more than a decade (1976-1988) and from 1976 until the early 2000's she attended virtually every national haemophilia camp living in and sharing her expertise with people from around the country.

She educated parents to cope with raising a child with haemophilia and many of these meetings were hosted in her own home. Her commitment to teaching boys and young men to learn to live with haemophilia has been a life long passion. She assiduously initiated and nurtured relationships with international haemophilia experts encouraging many of these specialists to visit New Zealand thereby exposing local patients, and trainees in haematology, to the contemporary standards of care for patients with haemophilia.

Elizabeth was at the forefront of the national response to HIV as it impacted on haemophilia and in 1984 lobbied the then Minister of Health concerning the implications of HTLVIII (HIV antibody) detection in a batch of CSL Prothrombinex. It was pointed out that this batch of Factor IX concentrate included Australian donors despite the stated policy that New Zealand destined product be prepared solely from New Zealand donors. She forcefully demanded official action observing "*we can no longer retreat into our isolationist cocoon in the belief that it (AIDS) will not happen here*". Despite official reassurances

CANDIDATES FOR NOMINATION OF LIFE MEMBERSHIP OF ASTH (CONTINUED)

she subsequently found that non-heat treated plasma, pooled from both Australian and New Zealand donors, continued for New Zealand recipients of Prothrombinex through until mid 1986.

Following the first identification of HIV positive individuals among the New Zealand haemophilia population she provided detailed reports to the Accident Compensation Commission (ACC) to ensure that patients did receive financial compensation on the grounds that HIV related illness should appropriately be considered as an injury and that it did meet the ACC Act definitions of misadventure leading to a loss of quality of life.

Elizabeth was awarded a QSO in 1988 for her services to medicine, in particular to people with haemophilia and other bleeding disorders. Many within the haemophilia community felt the honour could never do justice for their gratitude to her and her unselfish commitment to their care. The newsletter of the HSNZ (1988; 16 (2)) congratulated Elizabeth on her QSO. In doing so it stated *"there can be few medical practitioners anywhere in the world who are as caring. Caring through taking a personal interest in the patients and treating them as friends. When you get close to people you share their feelings, their grief and despair as well as their happiness and hope"*. Elizabeth never shirked any responsibility and many times has gone the extra mile.

There were further miles to travel following the identification of Hepatitis C in 1989. At the time she was still the foundation Chairman of the National (NZ) Haemophilia Medical Advisory Panel which she established. She lobbied for the rapid introduction of HCV donor testing and for high-heat treatment of all plasma concentrates. Despite these efforts it was not until mid 1992 that all blood donations were tested for HCV in New Zealand. Safe super heated Factor IX concentrates were not available until 1993. These delays related in what subsequently became known as the "Bad-Blood" scandal into which she provided expert medical input for the legal and compensation battles with central government.

Elizabeth became a member of the World Federation Haemophilia Medical Board in 1984 and chaired the Medical Advisory Board for a three year period (1988-1992) guiding the medical programmes of the World Federation of Haemophilia. In this capacity she was able to substantially raise New Zealand's profile within the international Haemophilia community. Standards of care for haemophilia within this country remain at the highest levels largely because of her leadership and input.

During her time with the World Federation of Haemophilia she was also on the editorial board of the official journal

of the World Federation, the Haemophilia Journal, and was also an editor for Haemophilia Forum.

Elizabeth retired from her clinical responsibilities at Auckland Hospital in 2001 and at the Annual General Meeting of the Haemophilia Foundation of New Zealand (formerly NZHS) was unanimously voted in as Patron in 2008. She was the obvious choice for the position in view of her *"in-depth knowledge of the world of haemophilia and the esteem in which she is held by the medical and the haemophilia community"*. She continues to contribute in this role.

Not surprisingly Elizabeth features very extensively in the monograph "Still Standing" which is the history of the Haemophilia Foundation of New Zealand 1958-2008. Perhaps Elizabeth's enthusiasm, dedication and commitment to patients with haemophilia are best summarised in her report to the NZHS following her first World Federation of Haemophilia Congress in Kyoto in 1976:

...And was it all worth it? Most resoundingly "yes". After six years of looking after haemophiliacs it was marvellous to be able to match faces to names, to ask all the little questions which can only be answered personally and to make contacts for future enquiries and visits. But above all it was the stimulus of being with a group of people, lay and scientific, filled with optimism and enthusiasm to work for a worth while future for all haemophiliacs".

Paul Ockelford, Auckland, NZ

References:

Still Standing. Haemophilia Foundation of New Zealand 1958-2008. Chantal Lauzon (ed).
Bloodline 2008;36(2).

I have little to add to Paul's most comprehensive biography and congratulate Elizabeth on all her achievements and Paul on documenting them so carefully.

It is a privilege to be Elizabeth's colleague and friend. She has been a pioneer in haemophilia care in Australasia, not only in the diagnosis and clinical management of bleeding disorders but also as a leader in her compassion for patients and their families and in training her many fellows. The high standards and reputation of haemophilia care in New Zealand are directly attributable to Elizabeth.

She is a "top" person and we are delighted to unreservedly support her nomination for honorary fellowship of ASTH.

Alison Street, Melbourne, AU

CANDIDATES FOR NOMINATION OF LIFE MEMBERSHIP OF ASTH (CONTINUED)

JOHN LLOYD

John Lloyd and I worked together for over 30 years, with many interesting and rewarding times and quite a few laughs along the way. I was a young scientist in the Haemostasis laboratory when John joined the Haematology Division of the IMVS in 1975 as haematologist in charge of the Haemostasis area. His main interest then was in platelet function, after completing an MD on "Platelets and ascorbic acid" in the Department of Medicine in Adelaide and a PhD on "Phosphatidic acid and phosphoinositides in platelets" at McMaster University in Canada.

The old single channel aggregometer in the laboratory was soon replaced by two dual channel aggregometers, and we started investigating the effect of storage conditions of platelet-rich plasma on platelet aggregation studies. The results of this work were presented over several years at the annual conference of the Australian Society for Medical Research (ASMR), the main forum for haemostasis science at the time. There were always numerous rehearsals with John before the oral presentations at these meetings. John was the organiser of the Thrombosis Haemostasis Discussion Group of Australia which met at these conferences. This group was instrumental in transferring the forum for haemostasis and thrombosis from the ASMR to the Haematology Association of Australia.

Some years later, John developed a collaborative relationship with Felix Bochner of the Department of Clinical and Experimental Pharmacology of the University of Adelaide. This was a fruitful cross-departmental association: the Pharmacology Department provided pharmacokinetic expertise and various honours students, and the haemostasis laboratory supervised these students in platelet aggregation studies. Together we studied the effect of various formulations and doses of aspirin and other anti-platelet agents on platelet function.

Throughout this time, John was also busy with his clinical duties of caring for patients with bleeding and clotting disorders, earning respect and appreciation from these patients, and becoming involved in the haemophilia society. He was almost wholly responsible for management of these patients, with other haematologists from the department stepping in when he was away. I can remember one of them commenting that "all the tricky bleeding patients come in when John

is away". Of course tricky patients did come in when John was there but he managed them more easily. He was also a founding member of the Haemophilia Medical Advisory Panel, now the Australian Haemophilia Centre Directors Organisation.

John was always very supportive of the scientists in the haemostasis laboratory, which expanded considerably during his time at the IMVS. Improvement of tests for detection of haemophilia carriers was one area of interest, which was later useful in a joint project between John and Les Sheffield from the Human Genetics Department at the Women's and Children's Hospital, to determine the spontaneous mutation rate for haemophilia A.

A nurse was employed to document the family trees of all haemophilia patients born in South Australia, to determine those with no known family history, and to assess the probability of carrier status of all females from these families. Subsequent haemophilia research, in association with Liz Duncan, focussed on a subgroup of mild haemophilia patients, who demonstrated a considerable discrepancy between one-stage and two-stage factor VIII assays, and included mutation analysis of these patients in collaboration with Barney Rudzki from the Molecular Pathology Division. This work eventually resulted in world-wide recognition of this sub-group, and the identification of an automated chromogenic assay for diagnosis of these patients. DNA analysis was continued to determine the mutation in all haemophilia patients that were seen by John, which has provided a much improved carrier diagnosis for all females in these families.

John has always been well-liked and respected by his patients, staff of the IMVS and other institutions. He has been an integral part of the expansion of knowledge and treatment of haemophilia and other bleeding disorders in South Australia. Outside work, he has been a keen tennis player, with social games held at his tennis court on Saturday afternoons for many years. Since his retirement, he has become a keen golfer. He is also enjoying time with his six grandchildren, and numerous trips overseas.

Susan Rodgers
Senior Medical Scientist
Haemostasis Laboratory, IMVS, Adelaide

BARRY FIRKIN ORATION 2010

THE TALE OF A JOURNEYMAN CLOT(TER)

Ockelford, P.A.

Dept of Haematology, Auckland City Hospital and Diagnostic Medlab, Auckland

The approaches to diagnosis and treatment of VTE have changed progressively over the last 30 years. These advances have been strongly influenced by clinical trial methodology and clinical trials initiated under the leadership of Jack Hirsh and the McMaster Thrombosis Programme. In the late 70s it was realised that clinical diagnosis of DVT is insensitive and nonspecific. There was a high pretest threshold for undertaking venography, the gold standard diagnostic test, because of perceived procedure related complications. I 125 Fibrinogen leg scanning and Impedance plethysmography (IPG) were evaluated as alternative non-invasive diagnostic tests.

In patients with suspected recurrent events this combination provided an objective rationale for withholding anticoagulants in the test negative cohort. In contrast, those testing positive, had a 20% recurrence rate over 20 months even after a further three months of anticoagulation.

IV Heparin was administered in hospital for 7-10 days followed by warfarin. When the latter was monitored by a rabbit brain thromboplastin there was higher dosing and more bleeding but equivalent efficacy to monitoring using human origin thromboplastin.

The diagnosis of PE based on VQ scanning was also problematic, particularly with low probability scans, due to a reluctance to perform definitive imaging. LMWH was discovered in 1976 and has been the focus of intense research over this period. The early animal studies predicting a clear dissociation of antithrombotic



Paul Ockelford, the Barry Firkin Orator 2010, with Claire McLintock, President ASTH.

and haemorrhagic effects were not reproduced clinically but the newer heparins paved the way for outpatient treatment of established VTE. Standard heparin can also be used in this way but is perhaps less convenient.

Current clinical trials using more specific oral antiXa and thrombin inhibitors predict that these newer agents will replace current conventional therapy in the near future. They will simplify, and in some ways further complicate, management of VTE.

UPCOMING MEETINGS

MEETING	WHERE/ DATES	CONTACT
WFH Musculoskeletal Congress Update	Dubai, UAE 31 March-3 April 2011	http://www.wfh.org/index.asp?lang=EN
14th Annual Scientific Meeting of the Australasian College of Phlebology	Melbourne 29 March-3 April 2011	http://www.cdesign.com.au/acp2011/
Novo Nordisk Coagulation Challenges	Sydney 2 April 2011	http://www.asth.org.au/downloads/Coagulation_Challenges_2011.pdf
International Society of Laboratory Heamatologists 2011	New Orleans 6-8 May 2011	http://www.islh.org/ISLH_2011/
XXIII Congress of the International Society on Thrombosis and Haemostasis	Kyoto 23-29 July 2011	http://www.isth2011.com/
AIMS 2011	Gold Coast 8-12 August 2011	http://www.alloccasionsgroup.com/aims-2011-conference-general-information
2011 BSHT/UKHCDO Meeting	Brighton, UK 3-5 October 2011	http://www.bsht.org.uk/
ASTH Scientific Workshop	Sydney 29 October 2011	
HAA-ISHAPD Meeting	Sydney 30 October-2 November 2011	http://www.haa-ap2011.org/
ASH Annual Meeting and Exposition	San Diego, USA 10-13 December 2011	http://www.hematology.org/Meetings/Annual-Meeting/