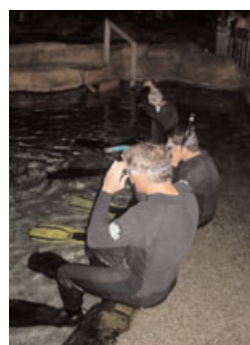


Dear Fellow Clotter

Welcome to what was to be the final edition of the newsletter for 2007 but is now the first edition for 2008. It has been a very busy year so I hope you will forgive me for the delay. As most of you will probably be aware, I was involved in the organizing of the HAA2007. It was a very rewarding experience and I would particularly like to thank Peter Mollee (Princess Alexandra Hospital), the HSANZ convenor for his help, support and encouragement. I must say that I was surprised by the number of "problems" that turned up during 2007 but none more than Claude Negrier missing his flight from Paris during the World Cup Rugby (after both Australia and New Zealand had been eliminated). The ASTH would like to thank Claude for the great efforts he made towards finding a seat on a plane that would get him to the Gold Coast in time (if only just and without his luggage).



Tim Brighton, Paul Harper, Murray Adams, Chris Ward, Doug Coghlan, Mark Smith, Vicky Mrowinski and Emma Perrin.



Above left: Preparing for the shark swim at Seaworld are Mark Smith (foreground), Andrew Roberts and Ken Davis.



Above right: HAA 2007 Convenor Peter Mollee with Emma Perrin.

I would also like to acknowledge the considerable support I received from Mark Smith, Chris Ward and Claire McClintock during the months leading up to October.

The meeting was very well attended with 936 participants and there were many highlights from the meeting. I would like to thank the 15 local ASTH invited speakers who all gave excellent presentations. I have colourful memories of a video sketch that John Fraser played during his talk on ventricular assist devices and the smooth style of Chris Bladin's introduction to the wave rider video. Another highlight was the voting for the seaworld presidential shark swim. Unfortunately, due to obvious vote tampering, all 3 presidents were obliged to get "fed to the sharks". I have included a few photos for your amusement.

continued overleaf

ASTH COUNCIL 2007-2009

Dr Chris Ward
Dr Mark Smith
Mrs Emma Perrin
Dr Claire McLintock
Huyen Tran
Grace Gilmore
Dr Ali Bianchi
Dr Douglas Coghlan
Dr Tim Brighton
Professor Hatem Salem

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Dear Fellow Clotter

continued from page 1

Congratulations to Simone Schoenwaelder (Monash University) who won the ASTH Medal and the \$2000



Chris Ward presenting the 2007 ASTH Medal to Simone Schoenwaelder.

prize at the HAA at the Gold Coast. The runners up (Kate Burbury and David Connor) both received \$500 and all winners were presented with certificates. The winning abstracts are included in this edition of the newsletter.

The 3rd ASTH Workshop was a great success and I would like to thank Murray Adams and Vicky Mrowinski for all their hard work in making sure the day ran smoothly. I would

also like to thank the speakers for their contributions, the trade for their time and financial assistance and all who attended to support their colleagues.

Finally, this year the annual meeting will be held at the Perth Convention and Exhibition Centre from the 19-22 October 2007. The organising committee is working hard to come up with an appealing program and have confirmed the following ASTH international speakers, Professor David Lillicrap (vWF genes and gene therapy), Professor David Lane (Thrombin) and Professor Frits Rosendaal (Thrombosis). See www.fcconventions.com.au/HAA2008/. Preliminary planning is under way for the 4th ASTH Scientific Workshop to be held in Perth on Saturday October 18. The ASTH website will post information as it becomes available.

Emma Perrin

FROM THE PRESIDENT

At the end of 2007, it's time to look back on another successful year for our Society. The highlight once again has been the Annual Scientific Meeting held at the Gold Coast. Emma Perrin did an excellent job as our representative on the Organising Committee, and delivered a superb and well-attended programme. The only "obvious" hitch was the flat tyre causing one of our French speakers to miss his flight, but he eventually arrived in Brisbane with hours to spare. All three international speakers gave us excellent updates of their respective fields: Claude Negrier in haemophilia and new haemostatic assays, Alan Nurden in inherited and acquired platelet disorders,



Mark Smith with the 2007 Barry Firkin Orator, John Lloyd.

and Ian Mackie on the arcane skills of the coagulation laboratory. This year's Barry Firkin oration honoured Dr John Lloyd, as a leader and mentor in Australian coagulation over several decades. Speaking on his "Life as a Clot", John proved that he was anything but, as he reviewed his research achievements in platelet function and haemophilia and his efforts as a clinician, to develop state-of-the-art haemophilia care in this country.

Once again, the ASTH Workshop was held on the Saturday prior to the conference, with a record attendance and sponsorship. Aably coordinated by Emma and Murray Adams, this workshop provides a unique opportunity for our laboratory scientists to present their work, review new assays and learn from each other. The workshop featured several talks on standardising

coagulation testing across Queensland, driven by the single public pathology provider. The clinical cases presented by Dr Ian Mackie rounded off the workshop – we hope this one-day event will be held before every ASM, and to continue to involve our overseas speakers.

ASTH council welcomes two new members in 2007 – Huyen Tran (VIC) and Grace Gilmore (WA), and farewells Murray Adam (WA), Paul Coughlin (VIC) and Paul Harper (NZ) with thanks for all their efforts on Council. Special thanks are due to Vicki Mrowinski, who has done an admirable job as our "locum" secretariat for the last year, keeping our members up to date, and the society functioning smoothly. The Council also thanks our outgoing President, Mark Smith, as the driving force behind our society's attractive new website (check it out, if you haven't already), and for his work behind the scenes to strengthen our relationships with our fellow Australasian Haematology societies (HSANZ, ANZSBT). Mark and Hatem Salem have fostered stronger links with the Asia-Pacific Society for Thrombosis and Haemostasis and we encourage you to attend their next meeting in Singapore, September 2008 (www.apsth2008.com). Mark has done a great job, and we're sure that the high number of votes he received for the Shark Swim at Seaworld was the result of electoral "irregularities" by his rival Presidents or their minions!

On a personal note, it's a great honour to represent ASTH as President for my last two years on council. We look forward to the challenges that lie ahead, to keep our Society healthy and relevant to all members. Among these, I'd like to highlight three issues which I feel are timely. Firstly, we must increase the number of ASTH presentations at the annual meeting. The ASTH scientific programme, featuring international and local speakers,

has maintained an excellent standard, and attracts a wide audience. But over recent years, the number of ASTH abstracts has been static or falling, with the potential to affect our standing at the meeting and our ability to bring in high-quality speakers. We're aware of the many groups across Australia and New Zealand with research and clinical strengths in coagulation and vascular biology. The excellent presentation on platelet signalling which gained Simone Schoenwalder the ASTH Prize for 2007 is a fitting example. However, only a subset of these groups bring their work regularly to the Australasian HAA meeting. We must encourage our basic researchers, laboratory scientists, medical registrars and nurses to see the ASTH programme as a high-profile national stage for their achievements. The generous series of awards offered by ASTH should counter the argument that the meeting is "too expensive" for scientists. I'd like to see everyone who is completing a PhD or higher degree in a coagulation-related field present work at our meeting, and compete for the society's top award. To remain as the key body in our discipline, we must increase our membership and participation at the ASM.

My second priority is to strengthen ASTH's role as a reference group for clinical coagulation trials. Under the leadership of Tim Brighton, our Clinical Trials Group has initiated a major international study of secondary VTE prevention (ASPIRE) with a substudy of risk predictors (PREDICT) and group members are working on new protocols for 2008. The Clinical Trials Group includes almost all of the Australasian investigators with experience in coagulation trials, and should be a first "port of call" for companies or groups seeking interest in their study. Big Pharma and their intermediaries have tended to pick and choose investigators for their trials – all of us involved in trial negotiations should keep



This year's Around The Bay cycle event in Victoria included a team with an ASTH connection. "Blood on the Road" was led by Huyen Tran, and included haematology colleagues Chris Ward, Matthew Greenwood and Steven Opat (not in picture). After riding 250km in one day, the riders are entitled to be slightly dishevelled...

ASTH in mind and (politely) suggest that they refer their protocols directly to the Clinical Trials Group. The high personnel turnover in this industry, and waning "corporate memory" makes it even more important for us to have a united voice.

The final issue I'd like to highlight for 2008 arose at the Gold Coast meeting; Alan Nurden spoke on his role in setting up a French Reference Centre for inherited platelet disorders, while colleagues from smaller states mentioned the difficulties of arranging specialised investigations for these patients. Taking the haemophilia centres as our inspiration, we aim to set up an informal network of ASTH members interested in platelet disorders. This expert network would assist clinicians trying to investigate these rare patients, and be the first step towards a national registry of platelet-based disorders.

I'd love to get your thoughts on the above or other pressing issues. Here's wishing you all a happy and productive 2008.

Chris Ward

SECRETARIAT NEWS

I have now returned from my 12 months sojourn to Ethiopia and resumed my position as ASTH secretariat. My thanks go not only to ASTH Council for granting the leave but also to Vicky Mrowinski who fulfilled the role so ably while I was away.

With my return, the ASTH office has moved from Glen Iris back to Brunswick and there are now new contact numbers – phone 03 9388 9876 and fax 03 9380 1327. The postal address and email address remain unchanged. The office is open each Wednesday and Thursday.

There are still a small number of membership renewals outstanding for this financial year – if you've received a reminder in the past few weeks please endeavour to complete and return the forms as soon as possible. If the forms have been misplaced, easily done at this busy time

of year, please drop me an email and I will send out a replacement.

It's wonderful to see the new ASTH web site up and running after the many hours of work I know were put in to it. I have enjoyed navigating through its various pages and if there are any news items or meeting announcements you'd like me to add please let me know.

Although the HAA2008 meeting in Perth may seem many months away, time does have a habit of getting away from us, so please give some early thought to meeting participation. An invitation to attend the meeting has been mailed to all members with the latest edition of the newsletter. The call for abstracts will be in May with a submission dead line of 14th July.

Megan Sarson

NEW AND EMERGING TECHNOLOGIES GROUP REPORT

The whirlwind that has been 2007 has drawn to a close, as is my involvement on the ASTH Council. In this last report I'd like to acknowledge the advice and support of Emma Perrin, Jim Thom, Emmanuel Favaloro, Bob Oostryck, Ross Baker, Tim Brighton, Chris Ward, Leonie Klomp, Megan Sarson-Lawrence, Vicky Mrowinski, Hatem Salem, Mark Smith and all other members of Council during my time. It has been an eye-opening and rewarding experience and I hope the Society now has a stronger, formal presence for laboratory scientists. Grace Gilmore from the Coagulation Unit at Royal Perth Hospital will be taking over as chair of the New and Emerging Technologies Group and I'm sure she would welcome any advice or comments during the next couple of years.

The 3rd ASTH Scientific Workshop was held at Griffith University on the Gold Coast on the 13th October 2007, the day before the HAA conference. The venue was less than 12 months old and was perfect to integrate with the trade. It was another successful event with around 90 delegates attending the day. The ASTH would like to acknowledge the support of the delegates, the sponsors; Immuno, Siemens Medical Solutions Diagnostics, Medtel, Pathtech, Dade Behring, Sapphire Bioscience, Inverness Professional Diagnostics and Helena Laboratories). We would also like to acknowledge Siemens Medical Solutions who also kindly sponsored the Sundowner at the end of the Workshop and Helena Laboratories who sponsored the Workshop CD that was provided to delegates.

The first session had a distinctly "Brisbane" flavor with Emma Perrin (Princess Alexandra Hospital) kicking off the Workshop with an interesting overview of the standardisation of coagulation testing in Queensland public hospitals. Michael Ray (Prince Charles Hospital) continued with this theme by reviewing the standardisation of monitoring and administration of unfractionated heparin in Queensland hospitals as part of pathology testing standardisation. Connie Solano (Princess Alexandra Hospital) then gave an entertaining and provocative talk on inappropriate coagulation

test requests. Greater education and communication within this hospital has led to improved efficiency and reduced costs with regard to coagulation test requests. Liz Duncan (IMVS, Adelaide) then rounded off the first session by making most of the audience jealous in taking us to some of the most magnificent settings in Switzerland (almost made me wish I hadn't changed jobs at the start of the year)... and of course a review of the SSC and ISTH meetings that were recently held in Geneva.

Following morning tea, Jenny Curnow (Royal North Shore Hospital, Sydney) provided an overview of thromboelastography and presented data of its application to the measurement of functional and total fibrinogen in various patient groups. Although

the technology is becoming more widely used in research, much more work is required to validate its use as a clinical/diagnostic tool. Marie-Christine Morel-Kopp (Royal North Shore Hospital, Sydney) followed by reviewing the principles of flow cytometry and presented data from two recent studies that her laboratory has been involved. The first was an interesting study that investigated the role of clinical depression on platelet activation. Platelet activation markers were increased in patients with depression, suggesting that it may contribute to an increased risk of CVD. Significantly, platelet activation was decreased following antidepressant treatment. The second study demonstrated that daily consumption of vegetable juice inhibits ADP-induced platelet activation, perhaps providing a protective effect against CVD.

Susan Rodgers (IMVS, Adelaide) compared three automated chromogenic factor VIII assays versus the traditional two stage assay, for the diagnosis of mild discrepant haemophilia A, as well as highlighting the potential advantages that the chromogenic assays have compared to clotting assays. Prior to lunch, Melissa Camenzuli (PaLMS Pathology, Sydney) presented interesting data using the STACLOT activated protein C resistance kit on patients that had abnormal resistance to activated protein C, but did not have the factor V Leiden mutation.



Hatem Salem, Chris Ward and Murray Adams at the Workshop.



Joanne Joseph, Michael Ray and Timothy Brighton at the Workshop.

Lunch was a highlight with over an hour to interact with the trade and to catch up with colleagues from around Australia and New Zealand. Following lunch, Anoop Enjeti (Mater Misericordiae Hospital, Newcastle) elegantly reviewed the very topical area of microparticles. It was an excellent presentation of what is currently known about what they are, how they are measured and what we understand their role to be in haemostasis. It would appear that much of the knowledge of microparticles remains to be unraveled. David Connor (St Vincent's Hospital, Sydney) then reviewed methods that can be used to measure clopidogrel responsiveness/ resistance, including point of care methods.



Murray Adams can finally relax after running the 3rd ASTH Workshop.

The last two sessions of the Workshop were a series of interactive and interesting case studies presented by Dr Tim Brighton (University of New South Wales) and Dr Ian Mackie (University College London). The feedback from the Workshop suggests that these types of sessions are very popular and will hopefully be revisited at future workshops. Thankfully, the Workshop ended with a Sundowner, a drink and further opportunity to interact and catch up with others. Hopefully it was a day enjoyed by all.

Good luck and best wishes – I'm off to the fruit and veg shop via the travel agent...

Murray Adams

2007 ASTH MEDAL WINNING ABSTRACT: IDENTIFICATION OF A UNIQUE PLATELET CONTRACTILE MECHANISM REGULATING THROMBUS STABILITY

Simone Schoenwaelder, Akiko Ono, Sarah Hsiao and Shaun Jackson

Australian Centre for Blood Diseases, Monash University, Melbourne, Victoria, Australia 3004

Aim

To gain insight into the mechanisms regulating thrombus formation and stability under flow.

Method

Thrombus stability was examined using a well defined *in vitro* flow-based thrombosis assay, independent of blood coagulation. 3D analysis of thrombus volume was performed using confocal microscopy.

Results

Real-time analysis of thrombi forming on a collagen matrix, but not on a VWF or fibrinogen matrix, revealed a distinct stage of thrombus development, which we have termed thrombus contraction. Thrombus contraction was apparent during the formation of large platelet aggregates on a collagen substrate and typically occurred over the first 5 minutes of thrombus development. Real-time 3-D analysis of forming thrombi by confocal microscopy revealed that thrombus contraction was associated with a 30-40% reduction in thrombus size (n=12). Thrombus retraction was shear-dependent, with

the rate of retraction increasing as a function of increasing blood flow rates. This retraction was accompanied by consolidation of the thrombus core, suggesting that thrombus contraction may play a role in promoting thrombus stability. Inhibiting the platelet contractile mechanism by pretreating platelets with the specific myosin IIa inhibitor, blebbistatin revealed an important role for the actinomyosin cytoskeleton in promoting clot retraction and thrombus stability. Furthermore, analysis of a range of signalling cascades involved in regulating platelet cytoskeletal function uncovered a major role for the Rho kinase signalling pathway in regulating thrombus contraction and stability.

Conclusions

These studies define a unique platelet contractile mechanism regulating thrombus stability under flow. This contractile mechanism is distinct from classical fibrin clot retraction in that the former is fibrin-independent, only occurs with larger thrombi and is regulated by shear. Moreover, unlike fibrin clot retraction, platelet thrombus contraction involves Rho kinase, a pathway not previously implicated in platelet contractile functions, raising the possibility that RhoA/Rho kinase

2007 ASTH MEDAL RUNNER-UP ABSTRACTS:

SAFE, EFFECTIVE AND CONVENIENT WARFARIN REVERSAL PROCEDURE, FOR ELECTIVE SURGICAL PROCEDURES, USING LOW DOSE INTRAVENOUS VITAMIN K

K. Burbury¹ D. Westerman^{1,2} D. Jupe³

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² University of Melbourne, Parkville, Australia

³ Royal Hobart Hospital, Hobart, Tasmania

inhibitors may represent new approaches to modulate thrombus stability in vivo.

Background

The optimal management strategy for temporary warfarin reversal preceding surgery has not yet been established. Current guidelines recommend discontinuing warfarin 4-5 days prior, aiming for an INR <1.5. Patients may receive parenteral bridging anticoagulation, based on their risk of thromboembolism (TE). An alternative method involves administering low dose intravenous vitamin K (vit K IV) prior to the procedure. This is rapid and convenient, however, has not been thoroughly assessed for routine practice.

Patients/method

We undertook a prospective cohort study, at the Royal Hobart Hospital between January 2006-June 2007, to assess the safety, efficacy and convenience of vit K IV, for short term reversal of warfarin. Patients on warfarin undergoing elective surgery received 3mg of vit K IV, between 12-24 hours prior to the procedure. The patient's INR was checked one hour pre-procedure. Patients were monitored post-operatively for 6 weeks. Patients at high

TE risk received therapeutic LMWH post-operatively, until reestablishment of a therapeutic INR. Outcome measures included: adverse reactions to vit K; INR values; incidence of bleeding and thrombosis peri-procedure during follow-up; time to achieve therapeutic anticoagulation with rewarfarinisation.

Results

104 patients participated with median age 72 years. Major indications for anticoagulation included: atrial fibrillation (41%), prosthetic valve (23%), TE (22%). No patient suffered an adverse reaction to vit K. 97/104 achieved a pre-procedure INR ≤ 1.5 (93%), all achieved INR ≤ 1.7. Four patients had procedure-associated major bleeding – all these procedures had an inherently high bleeding risk. No patient suffered TE during 6 weeks follow-up. Of the 91 with completed data, the median days to re-establish a therapeutic INR was 5 (Range: 2-20 days).

Conclusion

Low-dose intravenous vitamin K appears to be safe and effective for the temporary reversal of warfarin, preoperatively. Re-establishment time of therapeutic INR

INVITATION TO ATTEND PLATELETS 2008 INTERNATIONAL SYMPOSIUM

The Platelets 2008 International Symposium will be held in Woods Hole, Massachusetts, U.S.A. (15-18 October, 2008) and will be organized in the tradition of the very successful Platelets 2000 and Platelets 2006 symposia.

The concept is of a small-scale meeting (200-250 attendees) in a collegial setting, with participation by world leaders in the field of platelet biology, pathophysiology, and clinical medicine. Attendees will be clinicians, pathologists, and scientists with an interest in platelets. To register, or for additional information,

visit www.platelets2008.org or email rsimak@platelets2008.org.

Alan D. Michelson

PHOSPHOLIPID-DEPENDENT PROCOAGULANT ACTIVITY OF PLATELET-DERIVED MICROPARTICLES IS RESTRICTED TO THE ANNEXIN V BINDING SUBPOPULATION

David Connor^{1,2} Thomas Exner¹ David Ma^{1,2} and Joanne Joseph^{1,2}

¹Department of Haematology, St Vincents Hospital, Sydney, NSW, Australia

²University of New South Wales, Sydney, NSW, Australia

was not prolonged. Bleeding and thrombotic risks were not increased. This method of reversal is rapid, convenient, cost-effective and avoids bridging anticoagulation.

Aim

It has recently been considered that some populations of microparticles may fail to bind Annexin V. The aim of this work was to compare antigenic characteristics and phospholipid-dependent procoagulant activity (PL-PCA) of Annexin V positive and negative subpopulations of platelet-derived microparticles.

Method

Platelet-derived microparticles were obtained from unstimulated and stimulated samples. Microparticles were characterised by flow cytometry and PL-PCA measured by XACT. Electron microscopy was performed on the Annexin V negative subpopulation obtained by magnetic cell sorting.

Results

In unstimulated platelet poor plasma, 70% of CD41+ events

less than 0.82µm failed to bind Annexin V. Varying assays constituents (calcium and Annexin V concentration/buffer type) did not alter Annexin V binding. The proportion of microparticles that bound Annexin V was dependent upon type of agonist used. There was no significant difference in CD41, CD61, CD42a, CD62p and CD63 expression between Annexin V positive and negative microparticles. However, CD42b expression was significantly decreased in the Annexin V positive subpopulation. Electron microscopy of Annexin V negative microparticles confirmed these events as vesicles. A significant correlation between Annexin V binding and PL-PCA was found ($p < 0.01$) and Annexin V binding inhibited greater than 90% of PL-PCA, suggesting that Annexin V binding was a true reflection of procoagulant activity.

Conclusions

The presence of Annexin V negative microparticles was confirmed by flow cytometry and electron microscopy, however phospholipid-dependent procoagulant activity appears to be limited to those microparticles which bind Annexin V. Annexin V negative microparticles may

UPCOMING MEETINGS IN 2008

MEETING	WHERE/DATES	CONTACT
2008 ISLH International Society for Laboratory Haematology	Sydney 28 April-1 May 2008	www.islh.org/2008/
IVBM 2008 15th International Vascular Biology Meeting	Sydney 1-5 June 2008	www.ivbm2008.com
The 54th Annual Scientific and Standardization Committee Meeting	Vienna 2-5 July 2008	http://www.med.unc.edu/isth/ssc2008/index.html
5th Congress of the Asia Pacific Society on Thrombosis and Haemostasis	Singapore 18-20 September 2008	www.apstfi2008.com
2008 BSHT/UKHCDO Annual Meeting	Nottingham 1-3 October 2008	www.bsht.org.uk/
AIMS 2008 National Scientific Meeting	Melbourne 13-17 October 2008	www.aims.org.au
Platelets 2008 International Symposium	Massachusetts 15-18 October 2008	www.platelets2008.org
ASTH Scientific Workshop 2008	Perth 18 October 2008	ASTH@bigpond.com
HAA2008 Joint Annual Scientific Meeting HSANZ/ANZBT/ASTH	Perth 19-22 October 2008	www.fcconventions.com.au/HAA2008/ Abstract submission closes 14 July 2008
The American Society of Haematology 50th Annual Meeting	San Francisco 6-9 December 2008	www.hematology.org

ASH 2007 UPDATE

This year's American Society of Hematology meeting, was held in Atlanta, Georgia, the home of the Confederacy, Coca-Cola and CNN. Global warming may still be disputed in the US, but we were treated to balmy midwinter temperatures in the mid-20's and the city's fountains were dry due to severe drought. Inside the cavernous Conference Centre, there was much to interest clotting enthusiasts. Two special sessions, held in the main hall, highlighted the public health risks of venous thrombosis and current therapy, and on the special problems of thrombosis in the elderly. This included a message from Melanie Bloom, who lost her journalist husband to pulmonary embolism while he was "embedded" with the army on assignment in Iraq. She now heads the recently-founded Coalition against Deep Vein Thrombosis, to raise public awareness of VTE and lobby for better prevention and treatment strategies. The more cynical of us might wonder why our American friends have only just become "aware" of the problem – but the new funding initiatives can only help, by improving the profile of clinical thrombosis research in the US.

Exciting clinical trial results were presented at ASH '07, covering both new anticoagulants and TPO-agonists for refractory ITP. The RECORD trial programme of orthopaedic prophylaxis with the oral anti-Xa drug, rivaroxaban, featured in the ASH plenary and other sessions. Rivaroxaban significantly reduced rates of total and proximal VTE after hip and knee replacement, compared to standard-dose enoxaparin, and had an excellent safety profile even with extended (4-week) prophylaxis. The audience was relieved to see no excess in clinically significant bleeding on rivaroxaban, and no liver toxicity. The queue of novel agents continues to grow, with dose-finding studies of another anti-Xa agent, YM150, and AVE5026, an ultra-low molecular weight heparin with a longer effective half-life than current agents. Treatment of refractory ITP is becoming less pessimistic, with promising results from the new thrombopoietin receptor agonists, drugs which dramatically increase platelet production. AMG531 (now christened "Romiplostin" – who comes up with these names??) was shown to be effective in both splenectomised and non-splenectomised patients with

refractory ITP. Overall response rates were excellent, over 80%, with most patients responding within 2 weeks. Continued dosing seems to be required, with platelet counts falling quickly after drug cessation. Longterm safety data is reassuring; headache and fatigue were the main adverse effects, but few (16/137) stopped treatment because of these. An increase of bone marrow reticulin was seen in only a handful of patients – this was reported to improve after drug cessation and was not associated with marrow fibrosis or clonal evolution. Eltrombopag was also featured in a longterm study, with very similar efficacy and safety to romiplostin. Data from both trials suggest that TPO agonists will be very successful alternatives for patients with difficult ITP. Finally, the upfront use of rituximab in newly diagnosed ITP improved response rates over high-dose dexamethasone, but we wonder if the same benefit could be achieved by giving rituximab as an early second-line therapy, to poor steroid responders.

For only the second year, a special session on advances in coagulation science finished the conference. A new award, for the highest ranking abstract in coagulation, was presented to Dr Anil Chauhan, from Denisa Wagner's group in Boston. His studies in ADAMTS13 knockout mice demonstrated an increase in leukocyte rolling and recruitment to sites of inflammation, mediated by ultra-large multimers of vWF. Invited speakers included Dr Ben Kile from the WEHI, presenting the "molecular clock" model of platelet survival, driven by intracellular levels of the apoptotic proteins Bcl-xL and Bax/Bak. Dr Shahin Rafii (NY) outlined the role of platelets in regulating angiogenesis in normal tissues and metastatic malignancy. The many functions of CD36 (GPIV) as a scavenger receptor for oxidised phospholipids and thrombospondin were reviewed by Roy Silverstein (Cleveland Clinic), who presented intriguing new data that CD36 acts as a platelet receptor for phosphoserine-bearing microparticles, triggering augmented platelet reactivity.

The ASH annual meeting is now matching ISTH as a major forum for advances in coagulation, in the lab and clinic. It's not a place for the faint-hearted, with its huge crowds and long hours, but can be well worth the effort.

Chris Ward