APRIL 2020

MEET OUR NEW COMMITTEE MEMBERS

2019 CONFERENCE HIGHLIGHTS - ISTH, IORLH, BLOOD

2019 AIMS VICTORIAN BRANCH AWARDS

BENCHPRESS

The official newsletter of The Australian Institute of Medical Scientists (Victoria Branch)
A.C.N 010 985 403

A NOTE FROM THE CHAIR

Welcome colleagues to the new decade and a new look Benchpress!

It has been a tumultuous start to 2020 with bushfires, storms, floods and now the Covid-19 pandemic. I sincerely hope this newsletter finds everyone physically and mentally well and socially distancing.

This is my first report as the new Chair of the AIMS Victorian Branch. I am humbled to have been selected for this role and hope to work closely and positively with you all to progress our membership and educational meetings/ workshops and conferences at local, state and nation level.

As of the 30th June 2019 the official number of Victorian AIMS members is 482. This includes Life Members, Fellows, Retained Members, Member, Graduate Members, Intermediate Members, Affiliated Members, Student Members and Corporate Members. We hope this number will grow in the years to come with your continual support and promotion.

The AIMS bi-annual national scientific meeting is scheduled to be hosted in Melbourne on 7-9th of September this year at the Pullman Hotel, however, given the current outbreak this has thrown a spanner in the works. The organising committee are following the instructions from the Australian government and health authorities and will provide updates on the planning of this event as more information comes to light.

This issue of Benchpress contains a brief report from conferences including; ISTH, IORLH and Blood, the HDG, the AIMS Awards and certification of the medical laboratory workforce.

I hope Benchpress will offer you a moment of enjoyment during this challenging time.

Happy hibernation.

Tina Pham
Chair
AIMS VIC Branch

INSIDE THIS EDITION

GOT NEWS TO SHARE?

We would be delighted to share the good things you are doing in the scientific world.

Contact us at secretary.aims.vic@gmail.com or via Facebook (@AIMSVictorianBranch) to let us know.

The submission deadline for next issue of Benchpress is the 31st July 2020.

AIMS VIC BRANCH COMMITTEE MEMBERS

By Tina Pham

From L-R: Steven Schischka, Tina Pham, Matthew Wilson, Jaelyn Birrell, Genie Burchall, Joseph Rigano. Not in picture: Patricia & Ian.

GET TO KNOW YOUR NEW COMMITTEE MEMBERS.

A warm welcome to our newest committee members Genia Burchall, Joseph Rigano and welcome back Steven Schischka.

Genia's background is in industry engagement/ academic/research at RMIT University while Joe and Steven's background is in diagnostic Haematology/ Coagulation and are both from Alfred Health.

A special thank you to our returning office bearers Patricia Szczurek (vice chair), Matthew Wilson (treasurer) and Jaelyne Birrell (secretary) who continue to diligently support the daily administration of the branch.

SPECIAL THANKS TO...

3 committee members stood down in 2019, Kerryn Weekes, Cindy O'Malley and Sonia Tencic.

Kerryn was the chair since 2015-19, Cindy has been with the committee since 2012 while Sonia joined in 2016.

I would like to thank all the outgoing committee members for their dedication and hard work over the many years in particular their contribution to the success of Benchpress and the Morphology Workshops.

Kerryn Weekes

Cindy O'Malley

Sonia Tencic

2019 HAEMATOLOGY DISCUSSION GROUP (HDG)

By Steven Schischka

FEBRUARY

2019 started at The Royal Melbourne Hospital in February with Dr Sant-Rayn Pasricha speaking on "The Global perspective on Iron deficiency Anaemia". The event was sponsored by Roche and attended by about 33 attendees.

MARCH

In March we were hosted by Dandenong Hospital and sponsored by Beckman Coulter. 47 attendees listened to Dr Christopher Leow present a few clinical cases, Narelle Whiting spoke on "Spurious MCV in hyperglycaemia on the DXH800", Anna Sajdak spoke on "B12 in a nutshell" and Anne Abordo spoke on "Beware of the bite".

APRIL

April saw Roche sponsor the Shepparton event at Goulburn Valley Health. Speakers included Chris Hogan, Orhan Sheriff, Cathy O'Brien, Neha Gokool, Stacy Hurst, Cindy O'Malley, Gurbaksh Singh Kanda, Pam Daniels, Asha P, Sharon P and Steven Schischka. Topics covered included analyser interferences, molecular testing, CAR T-Cell therapy, rural health, oncology transfusions, PNH, TTP, HUS, atypical HUS, ESR - a past review, WAIHA, epigenetics and parasites.

MAY

May took us to Monash Medical Centre with 36 attendee and was sponsored by Eppendorf. Jesse Pinguinha presented a genetic search for an in-utero haemolytic anaemia, Wendy Hutchinson spoke on the KLF1 experience, Jeremy Wells spoke on pseudo-genes in alpha thalassaemia, Shabnam Ghomi spoke on a large novel deletion in alpha thalassaemia and Nick Clark spoke on Hb lepore and other fusion genes.

JUNE

June rolled around and we found ourselves at Box Hill Hospital supported by RCPA. 40 attendees listened to Bronwyn Munro, Alan Smith and Andy McGlinchey speak on ITP, IM, IVIG and the joy of hindsight. Hansi Gunasekara presented on a case of HbS and Sue Quiring closed with some Coagulation cases.

JULY

Alfred Hospital hosted the July HDG with sponsorship from Diagnostica Stago. 41 people listened to Andrew Webb, Gosia Gorniak, Wendy Osborn, Gaby Roche and Steve Schischka cover Duffy groups in Blood Bank, B-ALL MRD, a review of the ISTH and RCPA workshop, Microfilaria and a MDS/BMT/GVHD case.

AUGUST

Abbott sponsored the meeting at Peter MacCallum Cancer Centre in August. 63 attendees gathered to listen to Dr Lucy Fox present on the "Bone Marrow Failure Flagship Project" and Vuong Nguyen present on ICSH WCC reference method by flow.

SEPTEMBER

September took us to the Northern Hospital as they returned to public pathology and was sponsored by Helena Laboratories. Dr Vanessa Manitta spoke on a case of anaemia, Joe Rigano spoke on DOAC-STOP, Ahmed Farah spoke about missing Rh and Michelle Taylor presented a few paediatric cases.

OCTOBER

October we were rushing off to the Royal Children's Hospital with the support of ELITechGroup. 32 attendees listened to Sally Campbell and Janine Furmedge speak on current Haemophilia care, Dominic Fernandez speak on CAR T-Cells and Demi McKee speak on an ABO mismatched HSCT.

NOVEMBER

November brought 30 attendees to Monash Medical Centre sponsored by Beckman Coulter. Kylie Rushford spoke on a case of Neonatal jaundice with Anti-Doa, Antonella Curtis spoke about buffy coat granulocytes and Emma Hoskin spoke on peaks followed by multiple speakers on case studies.

Congratulations to Dorevitch Pathology and St Vincent's Hospital, the joint winners of the 2019 Haematology Discussion Group Trivia.

The HDG calendar year finished at the Castle Hotel with the annual Trivia night.

120 attendees representing Austin Health, Alfred Health, Cabrini, Dorevitch, Eastern Health, Melbourne Health, Monash Health, Peter MacCallum, St Vincent's Hospital and The Royal Children's Hospital participated in the trivia night.

6 rounds of 10 questions covered topics including; how Aussie are you, 2019 general knowledge, are you really an Aussie, name that dog, science and technology, and Christmas.

The winning group was a combo table representing Dorevitch and St Vincent's pathologies.

The night was rapped up by the giving of gifts such as coffee mugs, cards, stolen wine and other presents. A merry night was had by all!

120 attendees attended the HDG annual Trivia night held at the Castle Hotel in North Melbourne.

Clockwise:
Barry Firkin Orator, John Rowell: Director of Haemophilia Centre at Royal Brisbane and Women's Hospital Brisbane
Robert Medcalf: Professor of Research at Australian Centre for Blood Diseases Melbourne
Steve Kitchen: Scientific Director NEQAS | Clinical Scientist, Haemophilia & Thrombosis Centre, Royal Hallamshire Hospital Sheffield UK
Midori Shima: Department of Paediatrics Nara Medical University Japan

2019 Conference Highlights - ISTH, IORLH & BLOOD

By Joseph Rigano

In 2019, Melbourne was fortunate to host the prestigious International Society on Thrombosis and Haemostasis (ISTH) congress at the Convention and Exhibition Centre. This was a bustling 6-day event with a pre-meeting workshop and sessions being held during lunch plus evening functions.

October 2019 was a great time to be in Perth with Blood and the Indian Ocean Rim Laboratory Haematology (IORLH) congress being held consecutively.

The Indian Ocean Rim Laboratory Congress (IORLH) congress is an international meeting which was attended by delegates from 20 counties surrounding the Indian Ocean.

Blood is the combined annual scientific meeting of the Haematology Society of Australia and New Zealand (HSANZ), the Australian and New Zealand Society of Blood Transfusion (ANZSBT) and the Thrombosis and Haemostasis society of Australia and New Zealand (THANZ).

This following pages provide a brief summary of some of the major themes and latest discoveries presented at the meetings.

HAEMOPHILIA TREATMENT

Extended Half-Life Factor Replacement Therapy

The recent development of modified factor FVIII (FVIII) and factor IX (FIX) proteins with extended half- lives (EHL) aims to decrease the frequency of prophylactic administration without increasing the risk of spontaneous bleeding. PEGylation, protein fusion (IgG-Fc or albumin) and sequence modifications are techniques used to achieve this. These techniques extend the half-lives of FVIII and FIX by protecting against enzymatic digestion, blocking interaction with clearance receptors, improving solubility, increasing vWF affinity, promoting intracellular recycling and release into circulation. Eloctate® (Fc-fusion), Adynovate® (PEGylation) and Afstyla® (sequence modification) are available for haemophilia A patients increasing the half-life of FVIII by 1.5- to 2-fold. Alprolix® (Fc-fusion), Idelvion® (albumin-fusion) and Refixia® (PEGylation) are available for haemophilia B patients increasing the half- life of FIX by 3- to 5-fold.

In addition to the initial diagnostic role, laboratories provide continuous monitoring to ensure optimal therapy. The challenges faced by laboratories with the introduction of these EHL therapies is the accurate measurement of native and replacement FVIII and FIX. Patients have individual dosing regimens for specific therapy products with expected peak and trough levels of FVIII and FIX. Factor activity can be measured using one-stage clotting assays (APTT) or chromogenic assays. Field studies have shown that for some products there are significant differences between one-stage assays and chromogenic assays. In addition, significant differences also exist between one-stage clotting assays using different reagents. Laboratories need to be aware of how these new products interfere with their current assays so as to avoid underdosing or overdosing patients. For monitoring FVIII and FIX EHL concentrates, chromogenic assays are the preferred method. However, one-stage clotting assays may be suitable depending on the reagents used.

Recombinant Antibody Therapy

Emicizumab (HEMLIBRA®) Emicizumab is a recombinant, humanised, bispecific monoclonal antibody that bridges activated FIX and FX restoring the tenase co-factor activity of absent activated FVIII required for haemostasis. It is indicated for routine prophylaxis to prevent or reduce the frequency of bleeding episodes in patients with congenital haemophilia A with or without FVIII inhibitors. Emicizumab has no structural relationship or sequence homology to FVIII and does not induce or enhance the development of FVIII inhibitors. Clinical trials have shown that emicizumab prophylaxis significantly reduces bleeding rates compared with no prophylaxis. In addition, emicizumab efficacy was superior compared with FVIII prophylaxis for the control of bleeding when administered subcutaneously weekly, fortnightly or every 4 weeks.

In the laboratory, emicizumab has shown to interfere with APTT-based assays. Thrombin propagates haemostasis through positive feedback by activating FVIII which is a rate-limiting step in fibrin formation. Emicizumab does not require thrombin activation for its activity and propagates haemostasis without the additional time required for positive feedback activation. Therefore, Emicizumab shortens the time to fibrin formation in APTT-based assays. The APTT-based assays affected are the APTT, Bethesda inhibitor assay, one-stage single factor assay, activated protein C resistance (APCR), protein C and protein S.

Concizumab Concizumab is a high affinity, humanised, monoclonal antibody directed against the FXa binding site of tissue factor pathway inhibitor (TFPI), the primary inhibitor of the initiation of haemostasis. TFPI binds and inhibits FXa in complex with TF and factor VIIa (FVIIa) reducing thrombin generation and haemostasis. Although people with haemophilia have normal initiation of haemostasis, the amplification process of haemostasis is impaired because of deficiency in FVIII or FIX, leading to impaired FXa generation. Concizumab abolishes TFPI inhibition of the TF pathway resulting in increased FXa production allowing sufficient thrombin generation for effective haemostasis in patients with haemophilia.

Early clinical trials have shown that subcutaneous concizumab prophylaxis reduces the frequency of bleeding episodes in patients with haemophilia A and B with and without inhibitors. Increasing doses of concizumab normalises thrombin generation and is associated with increased FXa generation and decreased free TFPI. Insufficient data is available on whether concizumab administration requires monitoring and its effect on laboratory assays. Global haemostasis assays, such as thrombin generation (CAT) and viscoelastic testing (TEG and ROTEM), have been suggested as an option for monitoring haemophilia patients treated with concizumab.

‘NON-CRITERIA’ ANTIPHOSPHOLIPID ANTIBODIES IN ANTIPHOSPHOLIPID SYNDROME

The antiphospholipid syndrome (APS) is defined by the laboratory detection of at least one of three antiphospholipid (aPL) autoantibodies [lupus anticoagulant (LA), anti-cardiolipin (aCL) or anti-β2- glycoprotein I antibodies (aβ2GpI)] and the clinical manifestation of either vascular thrombosis or pregnancy morbidity in a patient. Recognising APS and administering appropriate therapy is important to reduce the risk of recurrent venous and/or arterial thrombosis, and to prevent pregnancy morbidity. In some instances, patients having clinical manifestations highly suggestive of APS are persistently negative for these three antibodies but instead have other aPL autoantibodies.

Antiprothrombin (aPT), antiphosphatidylserine/prothrombin (aPS/PT), anti-annexin A5 (aANXA5) and anti-β2-glycoprotein I Domain I (aβ2GpIDI) antibodies have been associated with increased risk of thrombosis in various studies. As their laboratory detection does not presently fulfil a criterion for diagnosing APS, these autoantibodies are referred to collectively as ‘non-criteria’ antibodies. There is now growing recognition that some of these antibodies are strongly associated with APS and should be considered syndrome defining antibodies. Many studies have shown a high prevalence of IgG and IgM aPT, aPS/PT, aANXA5 and aβ2GpIDI antibodies in both sero-positive APS and sero-negative APS patients. APS patients positive for multiple aPL autoantibodies, including ‘non-criteria’ autoantibodies, are at a higher risk of thrombosis or pregnancy morbidity.

The detection of ‘non-criteria’ aPL autoantibodies has potential therapeutic implications for patients with vascular thrombosis or pregnancy morbidity as long-term anticoagulation will be indicated. It has yet to be determined which, if any, of the ‘non-criteria’ aPL autoantibodies will be included as an APS-defining autoantibody.

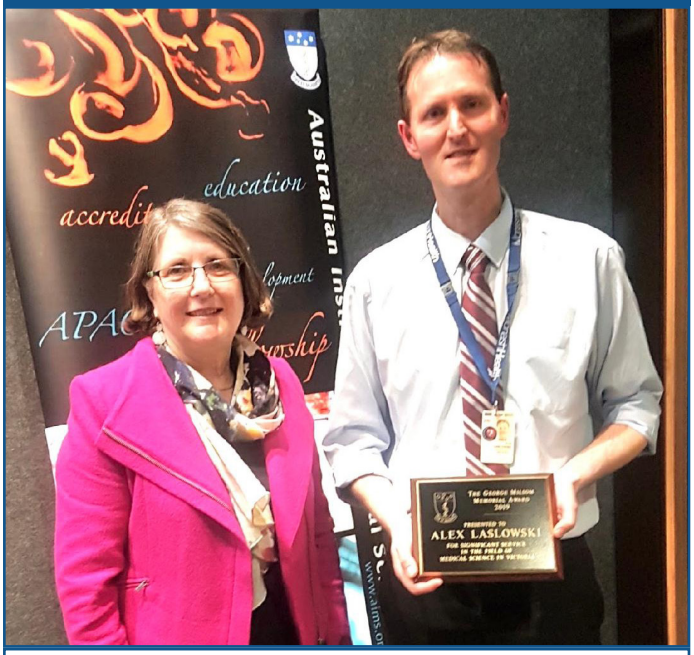
Clockwise:
Katrien Devreese: Professor of Haematology and Coagulation at Ghent University Hospital Belgium
Gary Moore: Consultant Scientist at Centre for Haemostasis and Thrombosis Guy’s & St. Thomas’ London UK
Robert Medcalf: Professor of Research at Australian Centre for Blood Diseases Melbourne
Joe Rigano & Gary Moore: Helena Laboratories Function

2019 AIMS AWARDS

By Patricia Szczurek

The opportunity to acknowledge the efforts of one's professional colleagues is perhaps the most enjoyable task that the AIMS Victorian Branch committee undertakes. At the recent AGM, it was with great pleasure that we announced the Victorian Branch award winners for 2019.

GEORGE MILSOM MEMORIAL AWARD WINNER - ALEX LASLOWSKI



The George Milsom Memorial Award was awarded to Alex Laslowski for significant achievement or service in the field of Medical Laboratory Science in Victoria. Alex's career spans more than 25 years.

His significant achievements include a number of publications and serving on multiple committees as well as sitting on an international board in the US for patient safety.

A strong commitment to CPD has seen Alex deliver many presentations and being awarded the best presentation for his speech on patient safety at the 2016 National Histology Conference.

GEORGE SWANSON CHRISTIE MEMORIAL AWARD WINNER - GLENDA MANN

The George Swanson Christie Memorial Award is an award offered by the AIMS Victorian Branch to an inspirational medical scientist who has shown ongoing excellence in the field.

In 2019 it was conferred to Glenda Mann. Glenda started her working life studying at RMIT in the Medical Laboratory Science course in 1979 and has had a long career working at a number of leading healthcare institutions including her role as the Senior Scientist in Blood Bank at Cabrini Pathology, Malvern.

Glenda has always been passionate about learning and continuing education and in 2018 she received her AIMS Fellowship in Blood Transfusion.

Glenda has always been professionally active, having participated in many conferences (both national and international) and enjoys writing and delivering presentations to her colleagues.

AIMS MERIT AWARD

The AIMS Merit Award is conferred to a person who has given significant service to the Institute nationally or to a Branch or Division or who has made a worthy contribution to the advancement of medical science and the profession. It is our great pleasure to announce that in 2019, the national award went to a Victorian AIMS member, **Geraldine Bollard**. Geraldine's has been an exemplar of dedication to her profession as well as the Institute during her career of 40 years and most deserving of the honour. We look forward to the presentation of this award at the next National Scientific Meeting.

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Australian Council for the Certification of the Medical Laboratory Scientific Workforce

The Australian Council for Certification of the Medical Laboratory Scientific Workforce (ACCMLSW) is a newly created not for profit company established to administer the voluntary certification scheme for medical scientists and technical officers.

WHY BECOME CERTIFIED?
Your status as a certified medical laboratory professional is a public guarantee that you are qualified, competent and continuing your professional development.

- Recognition of scientific qualifications
- Certification aligned with competency development and assessment processes
- Acknowledgement of participation in continuing educational activities
- Increased professional credibility and prestige in the industry
- Support of industry standards
- Demonstrated commitment to superior professionalism
- Advantage in the recruitment process

The certification scheme is now open for pilot testing. Applications received before 30 June 2020 will receive a 20% discount on the normal application fee.

Visit the website http://www.accmlsw.org.au/apply to apply. If you encounter any problems or have any questions, please email: office@accmlsw.org.au.

Apace

Australasian Professional Acknowledgement Continuing Education (APACE) is a voluntary programme that recognises professional activities which contribute to professional growth.

WHY BECOME CERTIFIED?
- Participation in CPD activities demonstrates a commitment to ongoing continuing education and professional development.
- APACE provides formal recognition of activities that may have been pursued on personal basis without recognition – records for a professional development portfolio.
- An APACE Certificate enhances professional profile and is a bonus on a resume.
- Recognition of participation in activities provides encouragement to maintain, improve and extend knowledge and skills for scientific and professional duties.
- CPD is about extending your knowledge and keeping up with, or ahead of, current developments and practices.
- CPD participation ensures a competent workforce and enhanced quality of service for increased confidence of service users.

The programme is open to members of AIMS, AACB, ASM, THANZ, ANZSBT and FSA. APACE participants can lodge applications and activities using the online diary www.apace.org.au.

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