

**The Official Newsletter of the Queensland Branch
of the Australian Institute of Medical Scientists**

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AIMS Qld Branch Committee Members

Chair: Anne-Marie Christensen

Vice Chair: Indu Singh

Treasurer: Christine Knauth

Secretary: Jacqueline Shaw

Committee Member: Gregory Mossop

Committee Member: Kathryn Eckersley

Committee Member: *Vacant*

Committee Member: *Vacant*

Committee Member: *Vacant*

Student Members: Rebecca Geary & Callum Bradshaw (QUT)

Sabina Ahmatovic & Sam Nozuhur (Griffith)

For all enquiries, please contact queenslandaims@gmail.com

Chair's Report

We have a bumper issue of the *Queensland Analyser* for you this month as we reach the end of 2016. It's been a busy time for the Branch and we will be giving you a chance to get to know our award recipients from our inaugural AIMS Queensland Medical Science Awards held earlier this year. We've asked the winners to provide a few words on the night and to share a bit about themselves. It was well attended evening and a wonderful opportunity to promote medical science and the work we do, the profession and AIMS in Queensland. We also thank our sponsors and special guests for their support on the night and look forward to 2017!

Our student representatives have also been busy and this month we have a feature article from two students who chose to complete their clinical placements in Alice Springs, Sweden and Ireland. They have also organised our next '5 minutes with...Craig Williams' featured on page 21. Our case study this edition has been written and submitted by BMLS student, Michelle Barron, from James Cook University who reports on a case of adult T-ALL. We especially want to thank Michelle for preparing such an interesting case study while managing a busy study schedule!

We also report on our combined event with the Histotechnology Group of Queensland (HGO) at the Pineapple Hotel. The theme for the night was the *Pathology of Malabsorption Disorders* with guest presenters Dr Jason Stone (QML Pathology) and Dr Elise Pelzer (QUT). We also held a well-attended Annual Meeting and welcome new members to the committee. We will introduce everyone in our first edition for 2017 and will also report back on our recent event with the AACB on Myeloma, as well as our upcoming Annual Quiz on 29 November at the Botanic Bar.

Check the last two pages for more information about the quiz night and how to nominate your team. Our winners in 2015 were the 'Chemistry Queens' - will they return to defend their title, and who will take the title in 2016? We encourage everyone to come along for a fun night. Talk to your workmates, form or join a team and we'll see you there!

Anne-Marie Christensen

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QLD AIMS MEDICAL SCIENCES AWARDS – THURSDAY 14 JULY

You will recall in our last edition of the newsletter the Branch was days away from hosting the inaugural "AIMS Queensland Medical Science Awards" in conjunction with the Tropical Division, with support from our key sponsors Trajan Scientific & Medical and the ANZ Bank. On the night, the event was formally opened by the Queensland Health Minister the Hon. Cameron Dick and the Medical Science Woman of the Year Award supported by the State Government's Advance Queensland Initiative. Our winners received their awards from the Minister for Science and Innovation, Hon. Leeanne Enoch, Queensland's Chief Scientist Dr Geoff Garrett, AIMS President Robyn Wells, Division and Branch Chairs Donna Rudd and Anne-Marie Christensen, ApAN National Chair Rosemary Cooper and Trajan Regional Manager Alex Anderson.

Glen Lynch, '*Medical Scientist of the Year*'

Elizabeth Correlje, '*Medical Science Woman of the Year*'

Dr Indu Singh, '*Medical Science Research of the Year*'

Dr Richard Bradbury, '*Special Recognition Award*'

Wayne Pederick, '*Regional/Remote Scientist of the Year*'

Kathryn Eckersley, '*Young Medical Scientist of the Year*'

Deborah Orr, '*Phlebotomist/Path. Specimen Collector of the Year*'

Lloyd Magpayo, '*Laboratory Assistant of the Year*'



OLD AIMS MEDICAL SCIENCES AWARDS – THURSDAY 14 JULY

Glen Lynch, 'Medical Scientist of the Year'

...I would just like to say that I really enjoyed the evening, especially as I had no expectations of winning at all (no acceptance speech prepared). Having said that, and as mentioned that night, I normally would dodge acclamation, however in this case, I am frankly flattered to a degree I can't express, and until these awards, I did not recognise the influences people have appreciated by me really just doing my job. The format of the awards was terrific and congenial and I want to reiterate it was a great evening and good to chat MLS with the Ministers and Chief Scientist. I think ongoing awards will do a lot to expose what is quite a covert group of health workers and help attract graduates into science...



Elizabeth Correlje, 'Medical Science Woman of the Year'



I accept this award with humility and pride- Pride in my profession and humility as I feel all medical scientists work as a team for the benefit of those who need our skills and knowledge. As a young child following a hospital stay, I told my parents that I did not want to be a

doctor or a nurse; I was going to be the person who they what was making the people sick. How I knew about the laboratory and the people who worked there is anyone's guess. My association with AIMS commenced when I was working in Far North Queensland, when colleagues from Townsville and Mackay tried to organise a means of providing ourselves with some continuing education. This was in the mid

QLD AIMS MEDICAL SCIENCES AWARDS – THURSDAY 14 JULY

1980's and in those days, it was difficult for the staff of the public and private laboratories to get together in one room to share and discuss case studies or share ideas. The first afternoon session was held in Townsville which is approximately a 4 hour drive from both Cairns and Mackay – yes, it was a long day but it was worth it. Following this successful afternoon education session, it was agreed that an annual conference would be the best way to provide relevant education to all staff.

With the help of AIMS, the NQ Branch was formed, with conferences being run in each city (Townsville, Mackay and Cairns). These conferences were and still are open to all – from Phlebotomists and Pathology Assistants, to Technicians, Scientists and Pathologists with topics covering all pathology departments. Whilst I am the recipient of this award, I would like to acknowledge those who worked behind the scenes in the early days of the NQ branch to ensure that these conferences were a success.

Since moving to Brisbane in 1992, I have completed my B. App. Sc. (Med. Sc.) and was lucky to be awarded the AIMS Intermediate Bursary in 1998. I have acted as the vice chair of the Queensland Branch from 2007-2010 working as part of the team to organise state conferences and other continuing educational activities. During this time, I have been supported and encouraged by my wonderful husband and sons, and my work colleagues over the years. I would like congratulate the other nominees especially the finalists and to thank the committee for considering me to be an appropriate winner of this award. I have pride in my profession and shall use this award as an opportunity to promote our profession.



OLD AIMS MEDICAL SCIENCES AWARDS – THURSDAY 14 JULY

Dr Indu Singh, 'Medical Science Research of the Year'



Indu Singh feels honoured to have her research efforts recognised by AIMS. Her research involvement started 10 years ago resulting in publication of more than 20 scientific journal articles, book chapters and funding from various sources to continue her research work. It is very encouraging to see the scientists and technicians always working behind the scene moving into research domain and being valued by AIMS. Indu has more than 30 years'

experience practising laboratory medicine in Hong Kong and Australia with more than 15 years of teaching Haematology, Transfusion Science and Laboratory Medicine to undergraduate and postgraduate students. Initially trained in India with Masters in Histopathology, she later graduated from Charles Sturt University in Laboratory Medicine followed by PhD from RMIT University in Australia. Starting her professional life in Hong Kong Adventist Hospital Pathology as a technician, leaving there as a Laboratory manager, she moved to Australia about 20 years ago. She worked as a scientist at Melbourne Pathology and Cabrini Hospital in Melbourne while teaching at RMIT University. For last 6 years, she is Program Director of Medical Laboratory Science program at Griffith University. Her research focus is haemostasis, antiplatelet therapy, and preventive role of antioxidants on life style induced oxidative stress related metabolic syndrome. Her ongoing clinical trials and studies evaluate effect of oxidative stress induced by life style choices such as lack of exercise or obesity and occupational risk due to sedentary life style. She investigates the preventative role of various antioxidants by determining their effectiveness in attenuating selected risk factors such as platelet hyperactivity and insulin resistance that are commonly associated with metabolic disorders in particular cardiovascular diseases.

OLD AIMS MEDICAL SCIENCES AWARDS – THURSDAY 14 JULY

Dr Richard Bradbury, 'Special Recognition Award'



Dr Richard Bradbury began his career working in small regional in Western Australia but spent most of his diagnostic pathology career at the Royal Hobart Hospital. Richard undertook his PhD in Pathology from UTAS part-time between 2003 and 2009. He became a Lecturer in Medical Microbiology at the UTAS School of Medicine in 2009. At this time he began undertaking research and capacity building projects in East Timor, Indonesia and the Solomon Islands. Richard has also

taught parasitology as a guest lecturer at James Cook University. He later moved to West Africa in order to take up a position with UK Medical Research Council field station in Keneba, the Gambia. In 2013, Richard returned to Australia began work as a Senior Lecturer in Medical Sciences at CQU. Whilst in this role, he re-organised the curriculum of the Bachelor of Medical Science (Pathology) and contributed to lectures and workshops with AIMS Tropical Division. In early 2016, Richard moved to Atlanta, USA and become team lead in the Diagnostic Parasitology Reference Laboratory of the CDC. Richard has maintained his involvement in AIMS and continues to serve on the editorial board of the AJMS.



Wayne Pederick, 'Regional/Remote Scientist of the Year'



A/Prof Wayne Pederick B. App. Sc. (Med Tech), MPH & TM MAIMS MASM MACTM. After graduating from WAIT in 1980 I commenced working as a Scientist in the Enteric Diseases Reference Laboratory in Perth and after two years I joined the Branch Laboratory Service of State Health Laboratories. I then spent the next 12 years in various Branch Laboratories in Western Australia before joining Territory Health Services in Katherine. In 1997

I moved to Darwin to join QML Pathology and during this time I developed an interest in tropical medicine and undertook a Master in Public Health and Tropical Medicine at JCU. In 2003 I moved to Rockhampton and began the collaboration with CQU that resulted in an Adjunct appointment in 2011. I have continued to mentor students and graduates in particular those in regional and remote areas and have continued to develop the collaboration between Universities and diagnostic pathology laboratories for research projects.

Kathryn Eckersley, 'Young Medical Scientist of the Year'

I graduated from QUT with my B.A.Sc. (Medical Science) in July 2012. I then moved to the NT and worked in Katherine, Tennant Creek and Darwin. After some time back in Brisbane, I moved in 2014 to QML Rockhampton where I continue to work. Working in regional and remote laboratories taught me to work without supervision and to appreciate a close working relationship with hospital staff and other allied health professionals. As a student I completed a vacation research project at the ARCBS that contributed to a poster presented at the 2011 HAA conference titled 'Bridging the Biology of the Ovine TRALI model – Human Inflammatory Cell Responses to TRALI Inducing Supernatants'. I also co-wrote a conference presentation "Pathology in the Solomon Islands" for 2012 Darwin NSM, and an AJMS

article titled "ISO 15189:2012 implementation: an applied guide for medical laboratories". I was the student representative on the AIMS QLD Branch Committee from 2009-2012 and have been committee member since 2014. In my time with the committee I have been involved in organising trivia nights, scientific meetings and student recruitment presentations.



Deborah Orr, 'Phlebotomist/Pathology Specimen Collector of the Year'

Deborah began her pathology career at the Dargaville Hospital Laboratory, she then worked at Goulburn Valley Base Hospital and now lives in Mackay. In 2002 she secured a position as a phlebotomist/lab assistant working for Pathology Queensland at Mackay Hospital and Health Service and has since become their Operational Supervisor.



Her qualifications include the NZIMLS General Certificate in Medical Laboratory Technology, Pathology Specimen Collection Cert III & IV, Training and Assessment Cert IV and a Diploma of Management. She has recently been appointed as an Adjunct Lecturer in the College of Medicine and Dentistry for James Cook University and facilitates phlebotomy in-services for the Year 5 Medical Students at Mackay Base Hospital. Deborah is one of the original members of APaN (The Australian Pre-analytical Network) and has attended, chaired and presented at a number of Tropical AIMS Conferences and at the South Pacific Congress in Auckland last year. She is passionate about improving the pre-analytical phase of pathology and believes that by working collaboratively with the wider hospital community better patient outcomes can be achieved.

Lloyd Magpayo, 'Laboratory Assistant of the Year'



QLD Chief Scientist, Dr Geoff Garrett AO



Rosemary Cooper, National Chair ApAN

Combined Night with HGQ – The Pathology of Malabsorption

Yet another great night was had by all at the combined AIMS and HGQ Scientific Meeting held on Tuesday 30 August 2016 at the Pineapple Hotel with the theme focusing on the fascinating area of the '*Pathology of Malabsorption*'. Our first talk was given by Dr Jason Stone from QML Pathology. Dr Stone gave us a great refresher on normal and abnormal absorption, highlighting points and processes where things go wrong, and the histology tests used in the process. Next, Anne-Marie Christensen (Branch Chair and QUT) stepped in at the last minute to present a haematology focused talk prepared by Dr Michelle Bryson from Gold Coast University Hospital. Unfortunately Dr Bryson was unable to make it due a last minute emergency, but we look forward to inviting her back at another event soon, and appreciate her providing her slides so the talk could still go ahead.



Our last speaker Dr Elise Pelzer, a researcher from QUT, gave us an excellent overview of the changes that occur in our gut microbiome in GIT disorders and malabsorption. Dr Pelzer also gave us a lot to think about when it came to the use and overuse of antibiotics and the impact on our body and microbiome in the short and long term. Special thanks also to Jerres Alcober (HGQ President, TPCH Histology) for organising the super backpacks generously donated by Leica. In all, the event was a great success, with around fifty people from differing scientific disciplines along with MLS students from QUT and Griffith University attending what was described as a "*well enjoyed night with the best finger food ever*". AIMS and HGQ look forward to next year's meeting and hope to host even more people.

SABINA AHMATOVIC (GU) – Dublin, Ireland

Where did you go for your placement? Why did you go overseas? My name is Sabina Ahmatovic, and in the first semester of 2016, I chose to undertake my clinical placement in the Cytogenetic Division of the Department of Clinical Genetics at Our Lady's Children's Hospital, Crumlin (OLCHC) in Dublin, Ireland. I chose to go overseas, not only for the obvious reasons of travel and tourism, but to harness the opportunity given to us as students of Medical Laboratory Science at Griffith University. The position offered in the OLCHC was unique, in that I would be in learning the skills needed for Cytogenetic analysis over a longer period of time, whereas some of the other clinical placement positions did not offer genetics, and had a rotation period of up to 4 weeks. I also firmly believe that going overseas broadens your perspective on learning and garners a sense of confidence in your knowledge, especially when it dawns on you that what you've been learning in classrooms with teachers and faculty can actually be applied globally.

What new skills or attributes did you gain from the experience? I think one of the most fundamental things I learnt from this experience was the ability to time manage and self-regulate. In university classes, they always tell you to 'manage your time well' etc., but in a work setting, this idea of time management and responsibility is completely different; there are patients involved and other staff that rely on you. Before I went into the laboratory, I thought I would learn more skills based in the technical aspect of the laboratory, but once I arrived and began training with staff to ensure I was capable of doing the work on my own, it quickly became obvious that all the skills learnt in the laboratories at university as completely transferrable to diagnostic laboratories; it turned out the most important thing was responsibility. Responsibility for yourself and managing time, responsibility to ensuring good sample quality and work, and most of all, responsibility to the staff and patients.

I also feel the communication is massively important in the work place. There were instances where communication error had held up lab work, and often caused confusion and blame amongst staff. Beyond the fundamental transferrable attributes of self-management and independence, I also learnt laboratory techniques for DNA extraction, specimen reception, logging in of samples and quality control.

Did your studies at GU prepare you well to work in an overseas lab?

The studies that we undergo as Medical Laboratory Science students are quite rigorous and I believe certainly prepared all of my cohort for clinical placement. This is reflected in the oral presentations that students performed when we all finished, and in saying that, I believe that I was also very prepared for my experience working in an overseas laboratory.



Emerald Isle

Were you able to contribute by bringing different ideas/resources to the organisation, participating in any projects or by providing a different perspective as an Australian student?

There were times where what we had learned in class had been almost identical to what was going on in the workplace environment. This was very beneficial as far as lab techniques is concerned. However, coming from Australia, our medical laboratory science standards differed from the standards of a European Union nation. Amongst my peer staff, I had asked questions about what courses they had studied in university and what they had learned, and found that sometimes they had not covered the same material that we had. I believe I was incredibly prepared and exceptionally ready to learn what was in store for me.

What advice would you give a classmate considering doing their placement overseas?

The advice I would offer to a student who is considering doing their placement overseas is to plan ahead, have set goals and be proactive. The laboratory workplace requires effort from the staff and from the supervisors, and you should not be expected to completely be looked after. This experience is one of learning complete independence and flexibility.

SABINA AHMATOVIC (GU) – Dublin, Ireland

What will you remember the most about this experience? This experience has given me a wealth of insight into the general routine of workplace relations. I think what I will remember the most is the ability to adapt and be flexible to any environment that I'm thrown into. When you're given so little time to train and quickly adapt, as well as reflect on, the things that are shown to you in the lab, you quickly co-opt these abilities into the real world. I think this benefitted me greatly in my ability to navigate a new country and a new culture. I will certainly remember all the fun, easy going staff and all the amazing things that I saw around the wonderful



PAMELA PHILIP-WANI (QUT) – Alice Springs & Skövde Sweden

Where did you go for your placement? Why did you go overseas For my placement this year, I decided to do something a little out of the ordinary. From the beginning of my studies at QUT, I dreamed of studying abroad and for some reason Gothenburg in Sweden was just calling out to me. A few years into my degree, that dream slowly turned into reality. I guess I can should be grateful in a way that there was a shortage of placements in Brisbane medical laboratories that gave me the push I needed to take my practical skills and knowledge and apply them in an overseas laboratory. With the encouragement of my Course coordinator at the time Anne-Marie Christensen, I was able to successfully apply for an internship position at a Medical laboratory in Skövde, Sweden. Fortunate for me, it just so happened to be one hour away by train to Gothenburg!

PAMELA PHILIP WANI (QUT) – Alice Springs & Skövde Sweden

One day I aspire to open a medical pathology laboratory in Africa and had heard Sweden was advanced when it comes to MLS. So why not take some tips from one of the best.

What new skills or attributes did you gain from the experience? It's hard to say. I think in combination with my first placement in Alice Springs, I have learned to love analysers and understand what nutrients the analyser needs to be fed in order for them to function to their highest potential. I learned to adapt to two different environments and working cultures.



Did your studies at QUT prepare you well to work in an overseas lab? Absolutely! I went into both placements armed with knowledge and practical experience. Some of the scientists were impressed with my ability to pick up on their protocols and my techniques. So I owe the LS47 QUT lecturers and the practical demonstrators for pushing me to perfect my aseptic techniques.

Were you able to contribute by bringing different ideas/resources to the organisation, participating in any projects or by providing a different perspective as an Australian student? I was able to contribute to a project by performing most of the technical aspects such as culturing different bacteria isolates that were ESBLs. Some of the bacterial isolates were carbapenemase producers. The laboratory in Sweden, decided to compare and contrast two types of media to see if one plate would inhibit the growth of non carbapenemase producing bacteria. I think the project was successful overall. I am happy I was able to be a part of it and learn something new. It is important too because more and more bacteria are becoming resistant to antibiotics.

PAMELA PHILIP WANI (QUT) – Alice Springs & Skövde Sweden

What advice would you give a classmate considering doing their placement overseas?

Plan well in advance. If you are thinking about completing your internship abroad, find out what will be required of you to complete all the necessary forms. Visit embassy representatives and ask those questions about living and “working” abroad, vaccinations required. There is no such thing as a stupid question, trust me I know. Be persistent and just don’t give up.

What will you remember the most about this experience?

I will remember all the people I worked with and the amazing way I felt in the laboratory. I am so thankful for the experience and the connections I was able to make. I wouldn’t change this experience for the world. Best thing I ever did!



AIMS & AACB ANNUAL QUIZ NIGHT

TUESDAY 29 NOVEMBER

General News Update

AIMS Fellow Recognised in Queens Birthday Honours List, 21st July 16

I am pleased to announce that Mr Michael Laurence Ralston, Battery Point Tasmania, has been recognised in this years Queens birthday honours list as Member (AM) in the General Division of the Order of Australia, "For significant service to medical practice, research and governance, particularly in the field of pathology and laboratory services." Michael Laurence Ralston AM, FIBMS, FAIMS, FRCPA (Hon), FFSc (RCPA) becoming the 192nd Fellow of the Institute in 1979. Mike started, as a research assistant in 1960 in the department of Genetics at the University of Sheffield in the UK and over the next 14 years became a leading scientist in Haematology and Transfusion in the UK. He migrated to the Latrobe Valley in Victoria in 1974 to take on the role of senior medical scientist at Latrobe Valley hospital and has been a leader in the profession ever since. In the late 80's he broke new ground as the managing director of Gippsland Pathology Service a role that up to then had typically been held by a pathologist.

Michael has been a teacher, mentor and leader to many. He has been part of the development of laboratory information systems (Medipath), been involved as a consultant to government as well as advisor to both private and public pathology services. He started up and managed the Immunohaematology Quality Assurance program that is now run through AIMS. He has been both member and chair of the National pathology Accreditation Advisory Council Advisory and Planning Committee (NPAAC APC) , a Fellow and board member of the Royal College of Pathologist of Australia (RCPA), a contributor to the National Health & Medical Research Council (NH&MRC), a member of the Medical Services Advisory Committee (MSAC), and member and consultant to the Therapeutic Goods Administration (TGA) He has also chaired the Gippsland division of AIMS and been convenor to two AIMS Victorian branch meetings 81 & 86. In 1984 was co-founder and convenor of the National Immunohaematology Continuing Education meeting (NICE), which is still run annually. Mike has also authored and published numerous publications.

Other awards and recognition includes:

Recipient, Jim Davis Memorial Award for Services to Medical Laboratory Science, 1984.

Recipient, Lane-Warner Memorial Award for Services to Medical Laboratory Science in Gippsland, 1988.

Mike has been an inspiration to many and I am grateful for his support and encouragement in my formative years as a scientist in blood transfusion. Please join me in congratulating Mike on this tremendous honour in recognition of his work in the field of medical science.

News from up North – Update from the AIMS Tropical Division

This year has been a busy one for the AIMS Tropical Division with a successful Scientific meeting “Trouble in Paradise - Emerging Threats” held in Townsville bringing together local bench scientists and researchers. Many enthusiastic conversations were held in the breaks and I have since seen many a collaboration spawned, it should be a wonderful boost for the local Pathology industry to also become involved in research.

The Pathology Special Interest Group meetings have been continuing on a regular basis and we have also held these in collaboration with other Professional bodies such as AACB. The AIMS Tropical Division is keen to promote and support collaboration with all professional bodies. These meetings cover a wide range of topics from all disciplines of the medical laboratory including Anatomical Pathology, Haematology, and Clinical Chemistry. We often make use of the Medical Laboratory Science students while they are on placement from JCU and CQU.

This year PSIGs have included the traveling orator Geoff Magrin video-linked to Cairns, Rockhampton and Emerald. We have since hosted local scientists presenting cases and a joint meeting with the AACB. Last Wednesday 10th August we held a successful meeting videolinked to Cairns, Rockhampton and Emerald, it was pleasing to see so many attendees particularly from the regions and to spread the word about the on-going AIMS initiatives such as the Medical scientist of the year awards.

This year we have continued to record the sessions and these are made available through a Pathology QLD link and the AIMS Tropical Division Youtube channel.

Donna Rudd
AIMS Tropical Division Chair

Note on Student Membership Application Forms

The one page form is currently for full-time students only and has to be signed by the Course Coordinator or an officer of the university. The two-page form is for all other applicants. Both forms are available at <http://www.aims.org.au/membershipinformation/join>

History of AIMS

The History of AIMS is now complete. Written by Ian Stanger, Bruce Munro, Jim Ruxton, Emeritus Prof. Tony Webber, Tom Bell and Len Lawler, the book is a detailed and rich recount of the history of AIMS in the past 100 years.

The book is [available for purchase](#) in the online store.

AIMS members have access to the [electronic version](#), and can be accessed in the Members Centre of the AIMS website.



The **APACE (Australasian Professional Acknowledgement of Continuing Education)** scheme is a voluntary programme that recognises continuing education, formal courses and a wide range of professional activities which contribute to your professional growth.

The healthcare industry is undergoing rapid change. We are expected to keep our knowledge and skills up to date to enable us to perform to the highest professional standard. The **APACE** scheme provides a method by which your professional activities are recognised.

APACE has been approved by the **New Zealand Medical Laboratory Science Board** as a re-certification programme for **New Zealand Medical Laboratory Scientists**.

APACE has been approved by the **Royal College of Pathologists Australia (RCPA)** as a continuing professional development recognition programme for Fellows of the Faculty of Science.

For more information and to enrol visit <http://www.aims.org.au/apace>

5 minutes with Craig Williams...

Where do you work?

I work at Sullivan Nicolaides Pathology. We have recently moved into a new purpose built laboratory at Bowen Hills which has been both challenging and exciting.



What future development/s direction/s in the industry are you excited about?

On a personal level, the move to the new laboratory. It has brought with it many changes including some innovative automation. On a larger scale, the advances in molecular testing are very exciting.

What do you like about your current position?

Making a difference to people's lives. Working in a medical laboratory you may not be on the front line, but we make a profound difference to too many people's lives by providing fast, reliable results to assist doctors in their decision making.

What makes you smile?

A good joke. Life can be too serious sometimes so you need to take the time to laugh.

What has been your favourite holiday?

Any holiday which involves the feeling of sand between the toes is a favourite.

Which 3 people, alive or dead, would you have around for dinner?

I would probably stick to three alive people, as the dead ones don't tend to be as much fun. I would have to have my son and daughter as they wouldn't be happy if I had a nice dinner without them. The third place could be taken by anyone who would brave a dinner with the two of them.

What's your guilty pleasure?

A good packet of chips while playing Xbox. Can't go wrong with that combination.

A Case of Adult T Cell Acute Lymphoblastic Leukaemia

Michelle Barron, James Cook University, BMLS Student

Clinical History and Laboratory Results

A 50-year-old male with a verbally confirmed history of T-cell acute lymphoblastic leukaemia, diagnosed at another laboratory, presented with marked thrombocytopenia (PLT $39 \times 10^9/L$), marked leucocytosis (WCC $48 \times 10^9/L$) and 75% blast cells ($36 \times 10^9/L$), which is indicative of an acute leukaemia. Erythrocyte morphology was normal. A bone marrow biopsy and aspirate clot and trephine was performed the same day, which revealed a heavy large, agranular lymphoblastic infiltrate and reduction in all cell lineages. Cell surface marker analysis of the marrow aspirate revealed 18% represented by the lymphoid region, and 58% represented by the blast region. The majority of lymphoid cells were T cells as indicated by T-cell CD markers. This is indicative of a T-cell, more so than a B-cell, lymphoproliferative disorder. The B cells present were polyclonal. Lymphocyte molecular studies were performed using PCR. Gene rearrangement studies demonstrated the presence of bclonal bands, through the use of primers specific for the T cell gamma receptor gene rearrangements. This indicates the presence of two distinct monoclonal immunoglobulins. Two-thirds of bclonal gammopathies are of undetermined significance, whereas the other third is associated with malignant proliferation of white cells. Therefore, it cannot be used as a diagnostic indicator in this case, but does not discourage the idea of acute lymphoblastic leukaemia.

Table 1: Bone marrow cell surface markers.

T-CELL	LINEAGE	B-CELL	LINEAGE	SPECIALTY	MARKER	MYELOGENOUS	LINEAGE
CD7	100%	CD19	<1%	HLA-DR	3%	CD11b	<1%
CD2	93%	CD10	4%	CD38	100%	CD13	1%
CD5	99%	CD20	<1%	c.CD3	85%	CD33	2%
CD3	<1%			c.CD79a	7%	CD14	<1%
CD4	24%			c.CD22	<1%	CD64	<1%
CD8	62%					CD34	83%
CD56	<1%					CD41a	<1%
CD16	<1%					CD117	2%
						CD15	<1%
						MPO	2%
						TdT	78%

Table 2: Haematology presentation.

Component	Result	Reference Range
Platelet count (Plt)	$39 \times 10^9/L$	$150-450 \times 10^9/L$
White cell count (WCC)	$48 \times 10^9/L$	$4-11 \times 10^9/L$
Blast cells	$36 \times 10^9/L \rightarrow 75\%$	0%

Fast forward seven months and the patient presented for weekly FBC. For a further 7 months the counts remained relatively stable, showing some pancytopenia suggesting the patient was undergoing treatment. The final relapse occurred abruptly with blasts appearing over the course of the 10 days between tests. This was followed by two months of treatment that was increasingly ineffective, and eventually the patient decided to cease treatment and enter palliative care. At their final presentation at our laboratory they presented with very advanced features of ALL. This included extreme leucocytosis ($231.8 \times 10^9/L$), marked thrombocytopenia ($41 \times 10^9/L$), 88% blast cells ($204.02 \times 10^9/L$), smear cells, anaemia, ovalocytes and tear drops cells. The smear cells are characteristic of lymphocyte related malignancy. The patient passed away shortly after these tests were taken.

Table 3: Final haematology presentation with the laboratory.

Component	Result	Reference Range
Platelet count (Pit)	Previously $39 \times 10^9/L$ Now $41 \times 10^9/L$	$150-450 \times 10^9/L$
White cell count (WCC)	Previously $48 \times 10^9/L$ Now $231.8 \times 10^9/L$	$4-11 \times 10^9/L$
Blast cells	Previously $36 \times 10^9/L$ Now $204.2 \times 10^9/L \rightarrow 88\%$	0%

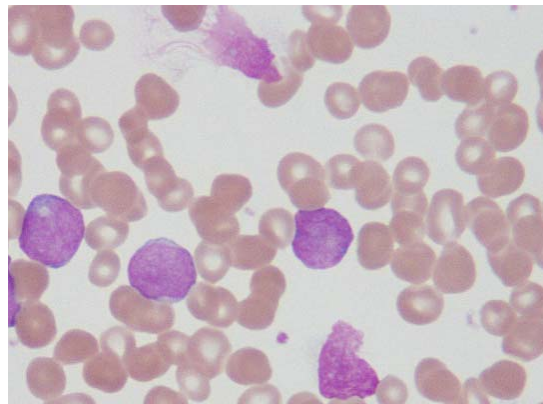


Figure 1A: Lymphoblasts and smudge cells (peripheral blood).

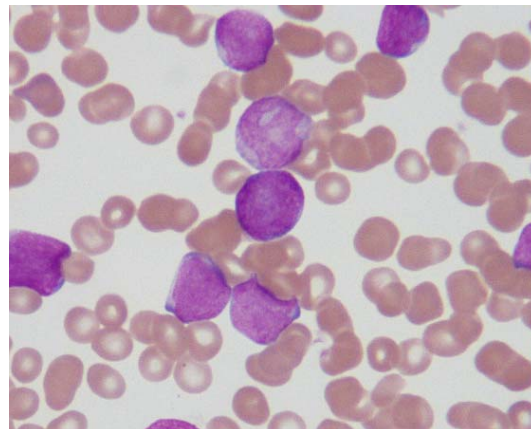


Figure 1B: Lymphoblasts (peripheral blood)

Diagnosis: T-cell acute lymphoblastic leukaemia (ALL)

Discussion

T-cell acute lymphoid leukaemia is a haematologic disorder with an abrupt onset, involving immature and dysfunctional cell proliferation and accumulation. This disease occurs in all age groups, but is more prominent in those aged 2-5 years, and individuals over the age of 60. Signs and symptoms tend to be more acute in the elderly compared to children. Bone marrow failure and loss of function, anaemia, extramedullary infiltration are amongst the few clinical behaviours accompanying T-cell ALL, which is much more aggressive than in B-cell ALL.

Bone marrow testing and analysis is preferred for the diagnosis of ALL in comparison to the sole use of peripheral blood, since up to 10% of patients do not have circulating blast cells in their blood. Its use is also preferred for genetic studies and analysis. Aspiration may not be possible, and in this case a biopsy is directed. The marrow is densely populated with lymphoblasts, with a reduction in other cell lines.

T-cell ALL has a poor prognosis in comparison to B-cell ALL, due to the presence of high-risk clinical features. Treatment protocols have become more efficient and effective since the immunological determination of cell lineage has become routine. Chemotherapy is most often chosen as treatment, but haematopoietic stem cell transplants are often considered beneficial to high-risk adult patients.

Conclusion

This patient had a history of ALL, and experienced a period of remission followed by an acute relapse as treatment became ineffective - characterised by sudden decrease in platelets and increase in leukocytes, erythrocyte abnormalities and high percentages of blast cells in the peripheral blood. Regular tests and analysis should be performed on individuals with acute leukaemia, to ensure treatment can be administered as soon as possible and to monitor its adequacy.

References

McKenzie, SB & Williams, JL 2015. *Clinical Laboratory Haematology 3e*
– New Jersey: Pearson

Print a copy of the latest *'Queensland Analyser'* and leave it in the tea/lunch room for others to enjoy!



Got any suggestions or contributions for future editions? Let us know...

queenslandaims@gmail.com



AIMS & AACB CHRISTMAS QUIZ

Sponsored by In Vitro Technologies

All we want for Christmas is for you to join us for Trivia!

The Queensland Branch of AIMS and AACB would like to invite you to this year's joint Christmas Quiz and Function.

Enter a team of up to 6 players or come as an individual and join a team on the night.

Scrumptious finger food provided

Date: Tuesday 29 November 2016

Time: 6:00pm for 6:30pm

Venue: Botanic Bar

P Block

QUT Gardens Point Campus

Cost: **\$20** per team of 6 or **\$5** per individual

RSVP: Friday 25th of November 2016 to s.weier@qut.edu.au



Team Entry or Individual?

How many players in your team?

How many players would like to enter and join a team on the night?

Contact _____

Email _____

Company _____

Phone _____



The Botanic Bar is located on Level 3 of P Block.

Parking is also available at reasonable rates underneath P Block.

