ACB News

The Association for Clinical Biochemistry & Laboratory Medicine | Issue 663 | February 2020

In this issue

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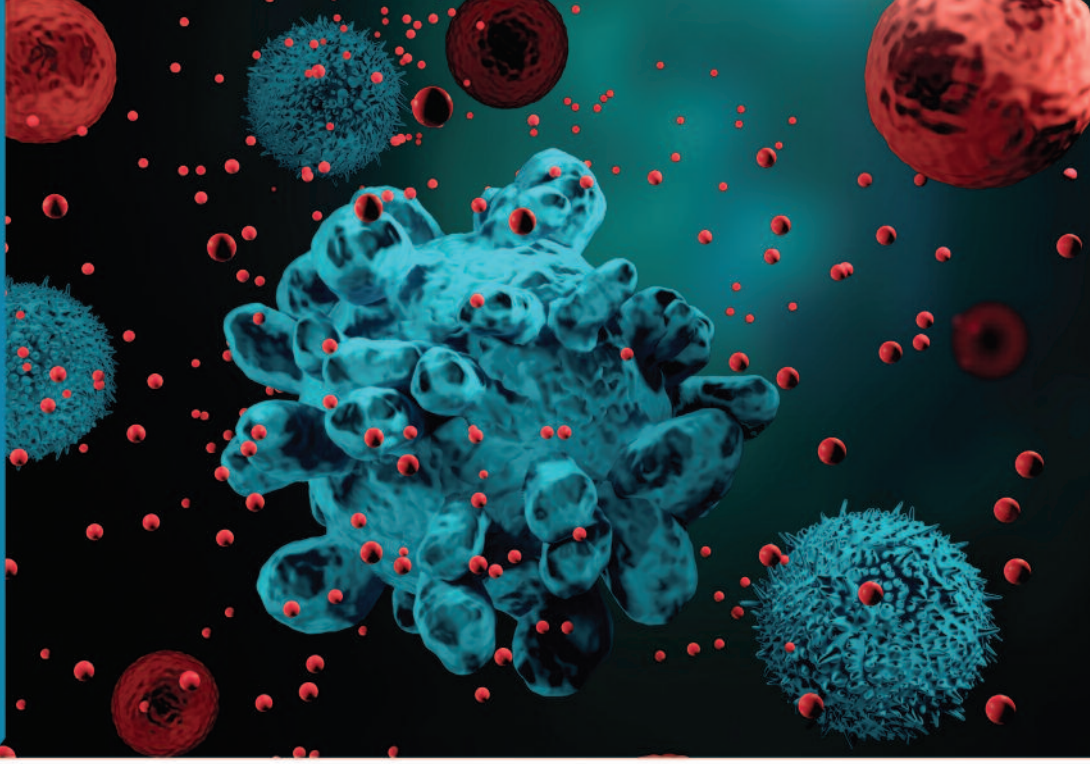

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ACB News

The bi-monthly magazine for clinical science

Issue 663 • February 2020

Front cover: Kerry Roulston (right) and Naomi Gadsby (left) at the ACB Microbiology Training Event last November

Nominations for Position of National Member of Council

In accordance with the provision of Articles 11 and 14 as outlined in the Association Bye-Laws subsections 6.2 and 6.3, nominations are called for the position of National Member of Council. Nominations for this position, duly countersigned, should be made on the nomination form on page 37 in this issue of ACB News and sent to: ACB Administrative Office, 130-132 Tooley Street, London SE1 2TU before **6th March 2020**. ■

Focus 2020:

Vision for the Future

13th-15th May 2020

Belfast, UK

Focus is the National Meeting of the ACB and is a great way to get to know Healthcare Scientists, Medical Practitioners and industry from all areas of Pathology. This year's 'Vision for the future' theme will see debates and discussions on big data, pregnancy and paediatrics, point of care testing and laboratory science of the future.

"Truly eye-opening" – feedback from Focus 2019

Registration is now open! Register by **1st April 2020** and save £70 as an ACB Member attending the whole conference with the early bird rate at: **www.acbfocus.org.uk**

Follow on Twitter: **#acbfocus2020** ■

Condolences

It is with regret that we must inform you of the sad news of the death of ACB Member Mike Scanlon who died on 6th December 2019. Mike helped establish the Renin Aldosterone SAS Service at St Mary's, Paddington at the start of his career. His expertise in this field was appreciated by many as he continued to provide this referral service until he had to stop work following a cancer diagnosis last year. ■

Sudoku

This month's puzzle

No help again this month!

			I		T			
		Y				I		
	T	S				E	Y	
Y				R				E
E		C				M		S
			T		M			
C	H	E	M	I	S	T	R	Y
	S						E	

Solution for December

I	E	C	S	H	T	M	Y	R
S	R	T	I	Y	M	H	C	E
M	Y	H	C	R	E	S	I	T
H	M	Y	E	S	R	C	T	I
E	T	S	Y	C	I	R	M	H
R	C	I	T	M	H	Y	E	S
T	S	M	R	E	Y	I	H	C
Y	I	R	H	T	C	E	S	M
C	H	E	M	I	S	T	R	Y

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10 Ways to Make the Most of your ACB Membership

If you're new to ACB – welcome! We're delighted to have you join us. If you're a returning member, welcome back. In case you missed it the first time, here's what ACB membership gives you access to:

1. **Grants, bursaries and funds** for travel, scientific development, lab visits and financial help in cases of hardship.
2. **Continuing Professional Development** accredited national and regional scientific meetings.
3. **Join ACB Committees** – including Microbiology* and Immunology* specific committees – and actively contribute to the profession and Association.
4. **Regional ACB networks** of clinical laboratory professionals.
5. **Membership of a certified Trade Union,** the Federation of Clinical Scientists, recognised as a full member of the NHS Staff Council, the authoritative negotiating body for the NHS.
6. **ACB News**, a paper copy of our news magazine on current issues in pathology.
7. **Annals of Clinical Biochemistry, International Journal of Laboratory Medicine**, for free.
8. **Nationally accredited training courses.**
9. **Professional registration** as a 'European Specialist in Laboratory Medicine' (EuSpLM) and/or 'Chartered Scientist' (CSci).
10. **A network of experts across laboratory medicine** via events and exclusive access to the Members' Area of the ACB website.

Bonus: Membership fees are tax-deductible.

Are you a Microbiologist?

The ACB Microbiology Committee offers support and advice for training and career progression. This include the provision of regular educational events and advice for those wishing to become HCPC registered Clinical Scientists via the equivalence pathway. Find out more: **http://www.acb.org.uk/whatwedo/micro_group_homepage.aspx**

Are you an Immunologist?

The ACB Immunology Committee offers support for Immunologists within the ACB. Find out more: **http://www.acb.org.uk/whatwedo/immunology-group**

* Microbiology and Immunology Committee members advise other ACB Committees such as the Scientific Committee, the Executive Committee and the Trainees Committee so please get in touch if you'd like them to feedback any issues: **http://www.acb.org.uk/contact-the-acb**

Find out more about these membership benefits at: **http://www.acb.org.uk/what weare/joining/benefitsofmembership.aspx**

Also see article on ACB Extras on page 13.

Follow ACB on Twitter @TheACBNews and Facebook @AssocClinLabBio

ACB Membership Awards 2020

Nominations for this year's Awards are invited from Regional Committees, together with a citation of about 500 words, outlining the basis of the nomination.

The Award must be approved by Council at its meeting in March 2020, and it is important that the Regional representative is able to extol the virtues of the nominated individuals.

The three award categories are:

Emeritus Member

Persons who have been Ordinary Members of the Association for at least ten years and have retired from full-time employment and who have made an exceptional contribution to the objects of the Association may, on the recommendation of Council and by a majority of at least two-thirds of those voting at a General Meeting, be elected Emeritus Members of the Association.

Fellow of the Association

Persons who have been Ordinary or Affiliate Members of the Association for at least ten preceding consecutive years and have retired from full-time employment may, on the recommendation of Council and by a majority of at least two-thirds of those voting at a General Meeting, be elected to the category of Fellow of the Association.

The recipients have made a significant contribution to the profession in one or more of the following areas:

- Continually led and instigated changes to meet the needs of Clinical Biochemistry and Laboratory Medicine services on behalf of a region or nationally.
- Developed exceptional educational and/or training facilities for the profession.
- Led in setting up and developing, over a considerable period of time, a well-respected and valued specialised service that had a major impact either within a region or nationally.
- Raised the profile of the profession over many years, within the lay or clinical community, either regionally or nationally.

Honorary Member

Persons who have made a distinguished contribution to Clinical Biochemistry and Laboratory Medicine at international level may, following the recommendation of Council and by a majority of at least two-thirds of those voting at a General Meeting, be elected Honorary Members of the Association.

If you would like to propose someone then contact your ACB Regional Secretary. Proposals must be supported by the Regional Committee and the nomination submitted through the Regional Committee at the Council meeting in March 2020.

The closing date for nominations received by Council is 6th March 2020.

XVth International Congress of Paediatric Laboratory Medicine

22nd-24th May 2020

Sky31 Convention, Seoul, Korea

The ICPLM is a unique conference in that it is the only global conference focused on laboratory medicine for children. The conference brings together scientists, physicians, and pathologists in a highly collegial environment to discuss topics of shared interest. This is a satellite meeting of the IFCC WorldLab conference and is held every three years.

This time the Congress, again through the kind support of the Society for Study of Inborn Errors of Metabolism, will also be offering 20 travel scholarships of €500 to enable those with an interest in Inborn Errors of Metabolism to attend (more details on the website).

In addition, the Congress will also be offering a prize for the best oral presentation by a young attendee (<40 years old on the 1st January 2020) who will be awarded the Michael Metz Award (€500), a new award commemorating the life and work of the past chair of the Task Force of Paediatric Laboratory Medicine.

For further information on scholarships, details of the programme and registration, please visit: **www.icplm2020.org**

Deadlines

Abstract submission: **15th February 2020**
Abstract acceptance notification: **28th February 2020**
Early-bird/Presenter registration: **31st March 2020** ■

IFCC WorldLab Seoul 2020

24th-28th May 2020

The IFCC Worldlab Seoul 2020, the 24th International Congress of Clinical Chemistry and Laboratory Medicine, will be held in Seoul, Korea. For further information, please visit the WorldLab website: **http://www.ifcc2020.org/data/IFCC2020_%20Announcement.pdf** ■

Publication Deadlines

To guarantee publication, please submit your article by the 1st of the preceding month (i.e. 1st March for April 2020 issue) to **editor.acbnews@acb.org.uk**

We try to be as flexible as possible and will accept articles up to the 20th to be published if space allows. Otherwise they will be held over to the next issue. If we are aware that articles are imminent, this gives us more flexibility and we can reserve space in anticipation.

If in doubt, please contact Ian Hanning, Lead Editor, via the above e-mail. ■

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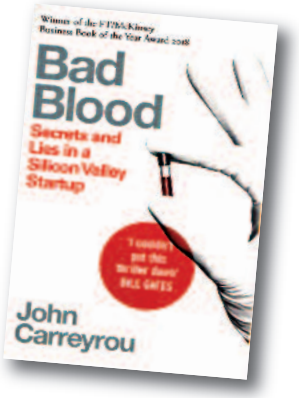
Book Review

Bad Blood: Secrets and Lies in a Silicone Valley Startup

by John Carreyrou (Picador)

Reviewed by Richard Spooner, Glasgow



It was a Consultant Neurologist of a past acquaintance who, as my daughter's NCT pair mother (small world), suggested I would appreciate this book for Christmas. And she was spot on.

Carreyrou is an investigative journalist on the Wall Street Journal and in 2015 was given a tip off that all was not well at the Silicon Valley unicorn – Theranos.

Theranos was the brainchild of the mesmerising college dropout and femme fatale Elizabeth Holmes who felt she could achieve the Holy Grail of Clinical Chemistry and analyse all tests on a single drop of blood using the same technology and at the same time, having needle phobia, would altruistically improve the lot of patients. I had a slide of such an "analyser" 20 years ago and am now wondering where it was plagiarised from!

Despite raising phenomenal amounts of money from people who should have been of a more enquiring faculty and ultimately valuing Theranos in the billions of dollars, the dream foundered on the joint altars of greed, ego, inexperience and mushroom management. Trying to deceive the laboratory licencing authorities when using beta testing kit to produce patient results didn't help. ACB Members attending the AACC Meeting in Philadelphia 2016 may have seen her being clinically, but politely, dissected on stage.

The book is a compulsive read even if there are multiple new characters to absorb per chapter. Carreyrou has had expert advice on the Clinical Chemistry content; that bit doesn't disappoint and will give Quality Managers apoplexy.

Reading this was a welcome break from my current diet of George Elliot, Arnold Bennet, and George Orwell, but it will probably feature, in due course, as an example of 21st century social history. ■

◆ ISBN 978-1-5098-6808-7
First published in 2018
Published by Picador in 2019

ACB Southern Region Scientific Meeting

The Protein Reference Unit at St George's Hospital is organising an ACB Southern Region meeting at St George's, University of London on 12th February. The provisional theme is communication between the laboratory and clinical teams as well as the public and patient involvement. ■

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Meet Alex Yates – Director of Scientific Affairs

I was born in Keighley, West Yorkshire, and despite living in several towns and cities – Liverpool, Sydney, Manchester, Truro and Congleton – I would always consider myself a "Yorkshire Lass".

As I'm sure many of us in the profession can relate to, I always loved science at school and after graduating from the University of Liverpool with a BSc in Biochemistry, I really didn't know what to do next. I come from a family who have always worked in the NHS, with my gran coming over from Dominica in the West Indies to work as a nurse, and raise four children; three of whom became nurses (the 4th joined the army!). It seemed natural for me to pursue a career that helped people, but also continued my passion for science. So, I started looking for NHS based opportunities. My first laboratory job was at Leeds General Infirmary in the SAS Endocrine Laboratory as a Medical Technical Officer. I worked with some truly inspiring Biochemists there who introduced me to the job which is now my career.

I'm currently a Clinical Biochemist at University Hospital North Midlands, based in Stoke-on-Trent. Although challenging, I enjoy all aspects of the job and dealing with the ever changing NHS landscape.

I first showed an interest in joining the Scientific Committee on completing my grade A training. I was however unsuccessful, but the Chair at the time contacted me and asked if I would be interested in helping to organise a mass spectrometry sub-group and I, of course, agreed. I also took the step to apply to be an Ordinary Member of the ACB Council, which helped me gain knowledge on the running of ACB Committees.

Organising the LC-MS/MS group lead to me being asked to reapply for a position as an Ordinary Member in 2013. Soon after starting with the Committee I was asked if I would like to become Deputy Director, a role I held for five years. Whilst on maternity leave with my second baby in 2019, the current Chair contacted me to say he was stepping down and asked me to apply for the post of Director. I was honoured (and a bit scared!) but have very much enjoyed the last 10 months in the post.

My vision for the Scientific Committee is that it should serve ACB Members, by fulfilling the ACB strategic aims. I see a huge role for the ACB in translational laboratory medicine and its integration into clinical pathways.

In the wider ACB, I'm a member of the Equality Diversity and Inclusion Working Group, and I'm passionate about promoting opportunities to all members and updating our current practices so to not inadvertedly exclude or disadvantage anyone.

Interesting bits

Outside of work . . . I'm kept busy and happy by my fantastic children; Seb (aged 6) and Jasmine (18 months). Seb is a scientist in the making and says his best ever school day was when "mummy came to talk about testing wee" – I did a urine dipstick experiment with the class. I love reformer Pilates and I'm trying to get into yoga.

What makes you happy? Singing along to music in my car – normally Beyoncé.

Favourite holiday? All holidays are fantastic but if I had to choose, a trip to Finland to hunt down the Northern lights was amazing – we didn't see the lights, but jumping in super soft snow up to your waist on the way to breakfast is so much fun.

What makes you sad? Sadness in others that I can't help fix, and the M6 in rush hour.

What is your favourite meal? Pizza – any type!!

Most important lesson life has taught you? Always do what you love.

Joke (I asked Seb) – What do you call Father Christmas with 100 legs? . . . Santa-pede! ■

Have you signed up to ACB Extras?

Recoup the cost of your membership with ACB Extras, the membership benefits scheme for ACB Members*.

ACB Extras has been designed to make your membership even more rewarding with money-saving discounts to support you both personally and professionally. ACB Extras is automatically an added benefit to most membership categories* without any extra cost. Why not make use of the travel discounts when attending Focus 2020 in Belfast this May? Our great selection of savings includes:

- **Lifestyle –** Great savings on Apple products, discounted cinema tickets at many major cinema venues, retail cashback at over 50 major retailers, corporate gym memberships, restaurant dining, magazine and newspaper subscriptions and top UK attractions.
- **Travel –** Discounts on package holidays from many of the major tour operators, hotel accommodation, cottages, airport parking, lounges and hotels and foreign exchange.
- **Work & Business –** CV and interview coaching, textbooks, IT and professional development training and website creation.
- **Advice –** Financial planning, mortgage assistance and legal advice.
- **Insurance –** Car, home, life and travel insurance.

Log in to the Members' area on the ACB website to access ACB Extras and start saving today: **www.acb.org.uk/whatweare/joining/acb-extras-additional-benefits**

* ACB Extras is available only to Ordinary, Ordinary Overseas, Honorary, Emeritus, Fellow and Student Members of the ACB. Federation Members are not currently covered. Retired Members have the opportunity to subscribe to benefit from ACB Extras. Please contact the ACB Administrative Office for more information. ■

Evidence-Based Health Care Courses

Looking for flexible postgraduate courses to apply research evidence to improve clinical practice?

The University of Oxford offers the following three 8-week courses in evidence-based health care. The first week of each course is spent working on introductory activities using a Virtual Learning Environment (VLE); the second week is spent in Oxford for the face to face teaching week (this takes place on the dates noted below); there are then four weeks of Post-Oxford activities (delivered through the VLE) which are designed to help you write your assignment. Assignments are submitted electronically during week 8 (if taking the course for academic credit).

Evidence-Based Diagnosis and Screening

Offered twice: 10th-14th February 2020 or 20th-24th April 2020

This course will teach students how to critically appraise and apply the best evidence on diagnostic tests.

Full details and information on how to apply can be found on the course webpage: **https://www.conted.ox.ac.uk/courses/evidence-based-diagnosis-and-screening**

Practice of Evidence-Based Health Care

27th April – 1st May 2020

This course will introduce the basic concepts and skills of evidence-based health care.

Full details and information on how to apply can be found on the course webpage: **https://www.conted.ox.ac.uk/courses/practice-of-evidence-based-health-care**

Introduction to Study Design and Research Methods

Offered twice: 9th-13th March 2020 or 15th-19th June 2020

This course will introduce some of the more advanced concepts and skills of research design, emphasising how they relate to evidence-based health care.

The face to face teaching week for all courses takes place at Rewley House, 1 Wellington Square, Oxford. Full details and information on how to apply can be found on the course webpage: **https://www.conted.ox.ac.uk/courses/introduction-to-study-design-research-methods** ■

ACB Retired Members' Meeting

Please note the next meeting for Retired Members will be held on Monday 27th April 2020 at Staff House, University of Birmingham.

The programme and registration details will follow shortly to all Retired Members on the ACB mailbase. ■

EFI 2020:
34th European Immunogenetics and Histocompatibility Conference

26th-29th April 2020

The 34th European Immunogenetics and Histocompatibility Conference Annual Meeting will be held in the vibrant Scottish City of Glasgow from 26th-29th April 2020. "From Research to Clinical Reality" is the theme for EFI 2020 which reflects the breadth and depth of the impact of histocompatibility and immunogenetics in science and medicine.
Key Dates: Abstract submission deadline: 10th January 2020. Early bird registration deadline: 14th February 2020
For further information please visit:
https://www.efi2020.org.uk/

Coming next issue . . .

Dr Mick Henderson, (Consultant In Paediatric Biochemistry, Leeds) at the Festschrift to honour his retirement. A full report on this meeting will be published in the next issue of ACB News.

Nominations for Awards: Focus 2021

Nominations are invited for the following Award to be presented at Focus 2021:

The ACB Foundation Award

This Award is to acknowledge an outstanding contribution to Clinical Biochemistry by an Association Member, who is normally resident in the UK. The recipient will deliver the Foundation Award, reflecting the 'state of the art' in an area of Clinical Biochemistry at the national meeting.

Written nominations for this Award are sought from a proposer and two seconders, who are Members of the Association (excluding elected Members of Council). Nominations must be accompanied by a supporting statement outlining the nature of the contribution made by the nominee and the reasons for consideration for the Award.

Nominations should be sent to: Mrs Sarah Robinson, Consultant Clinical Scientist, Biochemistry Department, Leighton Hospital, Middlewich Road, Crewe, Cheshire, CW1 4QJ. Email: sarah.robinson@mcht.nhs.uk

Closing date: 23rd March 2020.

Joint ACB Trent, Northern & Yorkshire Region and Clinical Toxicology Network UK Meeting

3rd March 2020

Medical Education Centre, Northern General Hospital, Herries Road, Sheffield, S5 7AU

10:00-10:30 Coffee and Registration

Morning Session

Chair: Dr Steph Martin, Sheffield

10:30-10:40 Presentation from Chromsystems

10:40-11:15 Applying DoA results in clinical practice
Dr Olawale Lagundoye, Sheffield Substance Misuse Service

11:15-11:50 How gabapentinoids contribute to opioid overdose
Professor Graeme Henderson, University of Bristol

11:50-12:30 MDMA tablet strength
Dr Lewis Couchman, ASI Ltd

12:30-13:30 Lunch, TNY AGM and meeting of CTNUK

Afternoon Session

Chair: Lorraine Brunt, Sheffield

13:30-13:40 Presentation from ThermoFisher Scientific

13:40-14:15 Emerging trends in synthetic cannabinoid use
Dr Simon Hudson, LGC

14:15-15:00 Clinical Cases (CTNUK)

15:00-15:30 Tea

15:30-16:00 Geoffrey Walker Award

ACB Members free and non-Members £10.

Details of registration and further information are available on the ACB website:
http://www.acb.org.uk/whatwedo/events/regional_meetings.aspx

Lipids 2020 Vision

Friday 12th June 2020

Crowne Plaza Hotel, Newcastle upon Tyne, NE1 3SA

The Clinical Biochemistry team at Newcastle upon Tyne Hospitals Trust look forward to hosting the Trent, Northern and Yorkshire Regional ACB Summer Scientific Meeting. The programme covers current topics in lipids and will be of interest to Trainees and those with more experience in this field. The venue is close to Newcastle Central railway station, is a short Metro journey from Newcastle airport, and also has parking nearby.

09:30-10:00 Registration and Refreshments

Morning Session

Chair: Dr Ahai Luvai, Newcastle upon Tyne Hospitals

10:00-10:05 Introduction - *Dr Ahai Luvai, Newcastle upon Tyne Hospitals*

10:05-10:35 Recent developments in FH genetic testing
Dr Ciaron McAnulty, Northern Genetics Service

10:35-10:55 Advances in PCSK9i provision in the North East
Dr Purba Banerjee, Newcastle upon Tyne Hospitals

10:55-11:15 Optimising the diagnosis of FH using bioinformatics
Rachel O'Leary, NICE External Assessment Centre

11:15-11:40 Refreshments break

11:40-12:10 An assay for atorvastatin: pitfalls and an unexpected surprise
Dr Nigel Brown, Northumbria NHS Foundation Trust

12:10-12:30 Statin-induced autoimmune myopathy
Dr Gavin Mercer-Smith, Newcastle upon Tyne Hospitals

12:30-13:20 Lunch

Afternoon Session

Chair: Dr Fiona Jenkinson, Newcastle upon Tyne Hospitals

13:20-13:50 Screening for lysosomal acid lipase deficiency in dried blood spots
Dr John Hamilton, Queen Elizabeth University Hospital, Glasgow

13:50-14:20 Non-cholesterol sterols in hyperlipidaemia and metabolic disease
Dr Ann Bowron, Newcastle upon Tyne Hospitals

14:20-14:40 A newly described inherited cause of paediatric dyslipidaemia
Dr Chris Stockdale, Newcastle upon Tyne Hospitals

14:40-15:00 Refreshments break

15:00-15:30 Next generation sequencing in the investigation of familial chylomicronaemia syndrome
Dr Paul Downie, Royal United Hospital Bath & University Hospitals Bristol

15:30-16:00 ApoB and β-quantification in the investigation of hypertriglyceridaemia
Dr Chris Boot, Newcastle upon Tyne Hospitals

16:00-16:30 Lipoprotein (a): how and when to measure
Dr Dermot Neely, Newcastle upon Tyne Hospitals

Details of registration will follow and will be available on the ACB website:
http://www.acb.org.uk/whatwedo/events/regional_meetings.aspx

Annual Microbiology Scientific & Training Meeting

Dr Rob Shorten, Chair of the ACB Microbiology Professional Committee

The Microbiology Professional Group of the ACB were delighted to host its Annual Scientific & Training Meeting at Tooley Street on November 5th last year. The event was oversubscribed and served as an excellent opportunity for the Committee to highlight our vision for supporting Microbiologists, and to meet microbiology members, including several new Trainees.

The morning session was themed around aspects of training and accreditation. Johnathon Taylor (University Hospitals Coventry and Warwickshire) began the day by sharing some really useful hints and tips for passing part one of the FRCPath exam. His analogy of FRCPath part 1 as a lake; broad but shallow, compared to the 'ocean' of FRCPath part 2 provided context and maybe a little fear in the audience! Dr Gemma Clark (Nottingham University Hospital NHS Trust) and Dr Rob Shorten (Lancashire Teaching Hospitals) shared their experiences of passing FRCPath part 2 in Virology and Microbiology, respectively. Making a study plan (and sticking to it), and attempting to remain calm in a high pressure exam situation were recurring themes. The meeting also provided an excellent networking opportunity for Trainees who are preparing for the exams. Understanding that many Microbiologists are working towards becoming Clinical Scientists whilst not being in formal training posts, Dr Naomi Gadsby gave an overview of becoming accredited via the equivalence routes. Anthony De Souza (Great Ormond Street Hospital) gave an entertaining presentation on how to maximise the benefit when delivering training in the workplace.

Johnathon Taylor from University Hospitals Coventry and Warwickshire

ACB President, Dr Neil Anderson, spoke passionately about what being a leader means and how we, as Healthcare Scientists, should be looking for opportunities to take our expertise and experience out of the laboratory to improve patient pathways. Our keynote speaker was Angela Douglas MBE, Deputy Chief Scientific Officer, NHS England. Angela spoke about the changing landscape in the NHS and how we will continue to play a vital role in delivering service innovation and improving patient outcomes.

The final part of the day started with learning from the experience at

Chesterfield Royal Hospital. A cross-departmental collaboration had resulted in improved turnaround times in the management of sepsis. Biochemistry staff were trained and supported to load, remove, and process blood cultures round the clock. This example, plus others, was aired in a panel discussion. Previous speakers and Consultant Biochemist Dr Sally Brady (St Thomas' Hospital, London) contributed to lively dialogue regarding how different pathology disciplines can break down barriers to work together for the benefit of our patients.

We then heard from three members who had submitted abstracts demonstrating service innovation. Adela Alcolea-Medina described an improved method using MALDI-TOF to rapidly identify Mycobacteria at St Barts & The Royal London, Laura Gifford presented a streamlined molecular testing algorithm for central nervous system infections in Wales, and Kerry Roulston outlined a proposed clinical trial to demonstrate the clinical benefits of a commercial assay that rapidly identifies and measures susceptibility of Gram negative bacteria from positive blood cultures.

Feedback from the day was incredibly positive and we will use this to make the next meeting even better! Thank you to all of you who came. ■

The Diggle Microbiology Challenge

These multiple-choice questions, set by Dr Mathew Diggle, are designed with Trainees in mind and will help with preparation for the Microbiology Part 1 FRCPath exam.

Question 17 from December's ACB News

Which of the following antibiotics is the most appropriate to incorporate into a medium to select outgrowth of anaerobic organisms?

A) Vancomycin B) Cefoxitin C) Neomycin D) Gentamicin

Answer

C) Neomycin which would select out general anaerobes (Vancomycin would select out gram negative AnO2, Cefoxitin would select out Clostridium difficile, and Gentamicin would select out a number of different organism types).

Question 18

A HCW sustains a needle stick injury from an IVDU. These are the blood results from the IVDU:

- *HepBsAg – negative*
- *antiHepBc – negative*
- *HIV 1&2 Ab – negative*
- *HVC Ab – positive*
- *HCV RNA – detected*

Which of the following is the best course of management for the HCW?

A) Reassure the HCW that there is no risk of transmission

B) Test the HCW immediately for HCV RNA

C) Test the HCW at 4/52 for antibodies to HCV

D) Test the HCW at 6/52 for HCV RNA

The answer to Question 18 will appear in the next issue of ACB News – enjoy! ■

Deacon's Challenge Revisited

No 6 - Answer

In health, most of sodium filtered by the glomeruli is reabsorbed at various sites along the nephron. Estimate the effect on urinary sodium excretion in a person with otherwise normal renal function of a 1% decrease in the overall reabsorption of sodium, indicating any assumptions that you make.

FRCPath November 1999

The first step is to calculate the filtered load of sodium presented to the tubules:

Filtered load = rate of filtration x plasma concentration

It is conventional to express sodium excretion on a 24h basis. We are not given any numerical data so it is necessary to assume reasonable values for the rate of filtration (i.e. GFR) and plasma sodium concentration. The units used must be comparable.

Assume GFR = 100mL/min = $\frac{100 \times 60 \times 24}{1000}$ = 144 L/24h

Assume plasma sodium = 140 mmol/L

Filtered sodium = 144 x 140 = 20160 mmol/24h

Failure to reabsorb 1% of this will result in an extra 1% being excreted in the urine.

Extra Na excreted = Filtered sodium x 1% = $\frac{20160 \times 1}{100}$ = 202 mmol/24h (to 3 sig figs)

Therefore a 1% decrease in sodium reabsorption will result in an increase in sodium excretion of approximately 200 mmol/24h.

Exam tip:
This question is typical of many in that you are not asked to perform a precise calculation but to produce an estimate based on reasonable assumptions. It is your experience and understanding that is being tested. Before the exam make sure that you not only know the common reference ranges but have some idea of values for such parameters as ECF volume, the value of 't' which corresponds to 95% confidence limits etc.

Question 7

The absorbances of a solution containing NAD and NADH in a 1cm light path cuvette were 0.337 at 340 nm and 1.23 at 260 nm.
The molar extinction coefficients are:

NAD:	1.8×10^4 at 260 nm,	1.0×10^{-3} at 340 nm
NADH:	1.5×10^4 at 260 nm,	6.3×10^3 at 340 nm

Calculate the concentrations of NAD and NADH in the solution.

MRCPath November 1995

The Importance of Software Developments in POCT Services

Nicky Hollywood, POCT Manager in Pathology, Harrogate and District NHS Foundation Trust

Point of Care Testing (POCT) services, both in the UK and worldwide, have developed and expanded at a significant pace over the last two decades. This has been driven by technological advancements and the availability of a broad range of POCT devices, which have enabled diagnostic testing to be more accessible across healthcare pathways. As a result, the use of POCT devices by NHS organisations has become more mainstream, but their widespread implementation has not been without challenges.

The use of these devices to support central pathology services has, in the past, divided opinion across the pathology community, with concerns being raised over their suitability, accuracy, quality, cost effectiveness and governance. However, these concerns have not slowed the development, or growth, of POCT devices in the commercial industry.

This growth has led to a more generalised acceptance that pathology professionals need to take a lead in the management and delivery of POCT services to ensure that the devices are used safely, appropriately and effectively.

As a result we have seen the emergence of more POCT sections within NHS pathology departments, which continue to grow at pace, supporting wider reaching and sophisticated clinical services. Clinics are being established in community settings, specialist nurses are using POCT devices to support home visits, community hospitals are offering more specialised services and care pathways are being redesigned owing to the availability of accessible tests.

The challenges that we are facing as a department are no longer contained within the 4 walls of the hospital environment as we are becoming part of an emerging "hospital without walls" culture. This can be exciting but also overwhelming when faced with the task of ensuring that these services are fully supported, led and managed by what is often a small POCT team.

The introduction of ISO standards as a mark of governance and quality assurance

for pathology, and the growth of the commercial POCT device industry can offer possible solutions. The ISO standards of quality for medical laboratories (ISO 15189) and POCT (ISO 22870) offer a benchmark that can be used as guidance or, if UKAS accreditation is achieved, a mark of quality assurance for POCT services.

Many companies within the commercial industry are developing the functionality of their products, ensuring newer devices coming to market are designed to support POCT services in meeting these rigorous standards. POCT teams have been vocal about the requirements for user management and lockout, quality control management, use of barcode technology, remote management, electronic results transfer and information needed to audit the service. These elements are now starting to become expected as standard by POCT teams. Companies are working on developing more sophisticated functions such as electronic communication with users, reagent verification, direct EQA transfer and review, to name a few.

It can be difficult to ensure that a new product meets the service needs for all potential users, as POCT devices are often used by a broad range of staff groups, in different locations and for different clinical purposes depending on the care pathway. It is important that professionals in pathology work closely with their commercial partners and have input during the development stage, as being involved in the delivery of POCT services, we can impart knowledge and experience, which can often lead to improved functionality and suitability when the device comes to be placed in service.

As the NHS moves into a digital era where paper notes are being replaced by

The Harrogate POCT team

electronic records and care is being delivered further from the hospital base, there is a need to ensure that the quality of POCT is upheld and that this service is fully embedded into the clinical care pathways that they support. The use of technology and remote management is essential to ensure that we uphold the quality and effectively govern this diagnostic service.

However, many commercial software solutions and devices may not offer the exact functionality that is needed. We have seen middleware solutions developed by companies that only support their POCT products and, as such, this has led to an IT infrastructure in POCT departments (which use an array of suppliers) being fragmented. Over time, some of these companies have made their software "open", enabling users to connect POCT devices from other suppliers, but users have often been left frustrated as the functionality achieved through connecting third party devices this way is not as sophisticated as the connectivity between the software and the supplier's own devices.

More recently, middleware solutions have come to market which are vender-neutral and are limited only by the device functionality. These have been successful in providing an independent solution, bringing the remote management of a number of devices onto one platform, but cost has often been a challenge for POCT teams.

As the market widens and more

software solutions are becoming available, the cost of achieving this connectivity is slowly becoming more affordable for NHS organisations. The sophistication of the level of connectivity achieved varies widely between organisations; ranging from some having very few connected POCT devices to some being able to demonstrate full end to end connectivity for many of their devices. There does seem to be consensus across POCT teams that some degree of connectivity is essential, with many working hard to electronically connect as many devices as possible so that the results are populated in the electronic patients record (EPR).

We need to have open dialogues with our commercial partners and input into future software developments so that new products and services continue to meet the needs of our ever changing health services. It is by using these POCT products in our care pathways that we are able to highlight opportunities for development and improvements that can't be identified in a commercial testing environment.

As we look to the future, the shape of the NHS is now rapidly changing again with network groups being formed and the pathology consolidation agenda is firmly back on the table with the NHS improvement team taking a central role.

These regional networks have, in many cases, been tasked with reshaping a broad scope of health services, pathology being one of the services earmarked for redesign. This restructure will lead to further fragmentation of our health and pathology services before realignment to form more streamlined and effective regional services.

It is difficult to visualise how these new services will look but there is no doubt that this restructuring could lead to a significant departure from pathology services as we know them. Whilst POCT services are not a priority in the early stages of this work for many areas, there is no doubt that they will play a pivotal role bridging the gaps that will inevitably form across patient pathways. Patients will be accessing more clincial services away from the traditional hospital environment and our POCT services will be an essential diagnostic support tool.

Being able to remotely manage and govern a POCT service which covers a wide geographical area is a crucial role that many pathology departments may have to administer. It is increasingly important that we start to actively engage and inform our commercial partners of our regional restructuring plans to ensure that the devices and software are effective for the services that we aspire to deliver.

Many commerical POCT manufacturers recognise the value of these close working relationships and are now actively establishing working and development groups which seek membership from professionals from varying backgrounds. Participation in these groups is an excellent opportunity to network, learn about new products and feedback difficulties and challenges with existing services. It is through these collaborations that we are able to share experiences, offer solutions and make joint contributions to future developments. ■

- *The IBMS is currently developing an online extended practice course for POCT professionals which will be available shortly. The 6 module course aims to provide educational support material to pathology staff who are new to POCT management and service provision.*

Resilience in Science

Arikana Massiah, Clinical Scientist, Viapath

I am a Clinical Scientist in Microbiology with an interest in translational science, particularly how we can use emerging technologies to improve the way we currently diagnose infections. As well as my Clinical Scientist role, I am also involved in the Microbiology Society as a Champion and I am part of their Professional Development Committee.

I was invited to talk to the Early Career Microbiologist Forum on resilience in science at the Microbiology Society Annual Conference in April last year. Whilst we are celebrating the achievements of our black Scientists, it is important to highlight how resilience can help black Scientists to progress well and succeed in their careers.

History is filled with "Hidden Figures" in science, who themselves being black and not at all represented in any professional groups, excelled in their careers and became pioneers in many respects despite facing insurmountable obstacles. As well as their astute knowledge, their flexibility and ability to adjust at all costs was the key to their success.

By embarking on a career in science, you take on a responsibility to work towards the improvement of science. There is a natural demand for high impact academic output and as such we are constantly assessed in order to progress. For black Scientists however, this means embodying the "twice as good" speech that our parents drilled into us. Whilst Michelle Obama's version of this speech to Tuskegee University graduates in 2015 may be depressing in parts, it is also a rallying call for resilience.

Moving to England completely changed how I viewed the opportunities available to me. Suddenly my name, where I was originally from, the colour of my skin, my accent or lack of it all seemed to somehow determine my success.

However, a lot has been done to ensure that discrimination is reduced and equal opportunities improved. The NHS Scientist Training Programme in Clinical Microbiology was the foundation on which I built my career so far. Yet, I was the only black Trainee in Microbiology and there were no black Trainers for that cohort. Suddenly representation mattered.

In June 2018, the Association for Clinical Biochemistry and Laboratory Medicine published the findings of an equality, diversity and inclusion survey. Only 6% of

Reported BAME Scientists who are completing/have completed the STP and HSST

Course	2013	2014	2015	2016	2017	2018	2019	Total
STP	<5	<5			<5			<5
HSST				<5			<5	<5
Total	<5	<5		<5	<5		<5	7

HCPC registered members who responded to the survey stated ethnicities other than white. However, there was a broader spread of ethnicities within BAME (Black, Asian and minority ethnic) categories.

Information relating to BAME Scientists who have completed or are completing the STP and HSST in Microbiology held by Health Education England (HEE) is provided in the table opposite.

Ethnicity was a self-reported field which Trainees may have preferred not to report. The table represents Trainees who have definitively reported their ethnicity as: Mixed White & Black (identifying separately as Caribbean/Black African/ other), Asian (identifying separately as Indian/ Pakistani/ Bangladeshi/other), Black (identifying separately as Caribbean/ African/ other), Chinese or any other.

As the table contains a small amount of numbers, these have been reported as less than 5 in order to avoid potential identification of an individual if exact numbers are disclosed. In as much as this data is telling, it is important to know that the STP and HSST do not represent the full list of Clinical Scientists in the Healthcare Science workforce. These data are held by the regulator for Healthcare Science – the Health and Care Professions Council (HCPC). Whilst they publish a register of all registered Cinical Scientists on their website, ethnicity of these registrants is not published.

As I progress in my career, I am getting used to being the only black person in the room. It is lonely and often discouraging. I realised if I want someone to represent me and my views I had to step into the room, be part of the conversation and hold the door open for others to get the same opportunities or even better. Whilst this is a short-term solution to a wider problem, it has enabled me to contribute to the development of science policy from introducing a focus on

Healthcare Scientists within the Microbiology Society to participating in Parliamentary Links days where Parliamentarians and Scientists meet and discuss steps in developing our science policy.

A few things I have learned along the way, your health is your wealth and your knowledge is your power. You cannot work without both. I am grateful for my friends and family. Hold onto yours, they will keep you going during the low periods and it is equally important to celebrate with them. However, we cannot talk about resilience in science without talking about good leadership and mentorship.

I am incredibly lucky to have a few people who have mentored me through

the years and continue to do so. Whilst searching for a single mentor may be daunting for some, I think mentorship becomes more accessible when you are attentive and open-minded to what is going on around you. Bite-size pieces of advice, not just from your senior colleagues, can provide you with a wealth of wisdom or can give you just the right direction you need at a specific point in your career. I often find that I have more to learn from junior colleagues as they are more likely to have faced challenges similar to my own.

What is encouraging is the work that both learned and charitable societies in science are doing on equality, diversity and inclusion. The NHS now has a BAME mentorship scheme and unconscious bias training is becoming a mainstay.

Whilst we are responsible for advancing our own careers, and therefore must build resilience, supporting a productive work environment is everybody's responsibility. It is often said in many cultures that it takes a village to raise a child; well it takes another village to support a black Scientist!

I wish you the strength to be resilient, soldier on and achieve your greatness. However, whilst you are on your journey, try to remember the time when you dreamed about achieving what you have now and celebrate your achievements! ■

Things to do in Belfast . . .

Joining us in Belfast for Focus 2020? Make the most of your visit and enjoy a unique and authentic taste of Belfast and Northern Ireland. Here are some ideas to give you a flavour of what is on offer . . .

Guinness, Oysters and Irish Music

Sample a local brew in one of Belfast's historic hostelries, visit one of the traditional pubs for a live Irish music session, or check out the hip and trendy bar and club scene.

Belfast's Walking Gems

This walker's guide will give you information on all the key places to go walking in Belfast with a range of tours available to explore the unique history, culture and heritage of the city.

St George's Market

If you want to enjoy a real taste of Belfast, visit St George's Market. Open Friday to Sunday, it offers a wide range of local, high quality, specialist food and products. Sample the produce or relax with a coffee and newspaper against a backdrop of live jazz or flamenco music.

Historical Pub Walking Tour

Join us on a walking tour of Belfast's oldest pubs including those of both architectural and historical importance. Perhaps the most famous is the Crown Liquor Saloon, owned by the National Trust, which is 150 years old and a Victorian delight with its old snugs, stained glass windows, gas light lamps and one of the best pints of stout in Belfast.

The Cathedral Quarter

The historic heart of Belfast is now the city's up and coming cultural hotspot. The cobbled streets are dotted with gems of all kinds from restaurants, pubs, art and photographic galleries.

Gaeltacht Quarter

The centre for Irish language and culture is in the west of the city, characterised by a lively culture of music, debate, drama, great eateries and traditional pubs. Beyond the area's famous political murals and peace wall there's plenty more to discover. Join one of the Gaeltacht Quarter's organised tours. Head up Divis Mountain to discover some fantastic views, or visit Belfast's only protected bogland.

Queen's Quarter

A leafy area spread around Queen's University in the south of the city, the Queen's Quarter is home to a treasure trove of eclectic shops, cafés, bars, galleries, the beautiful Botanic Gardens and the Ulster Museum. Recommended stops include the Naughton Gallery in Queen's University and the Ulster Museum.

Titanic Quarter

Belfast's most recently re-developed Quarter is full of innovation, excitement and opportunities for discovery, alongside history, heritage and tradition. The Odyssey acts as the gateway to the Titanic Quarter, from the fun discovery centre W5, ten-pin bowling, cinema, eateries, bars and nightclubs and not forgetting the Arena itself, home to the Belfast Giants. From there, you'll be quickly immersed in Titanic heritage. Visit the Titanic's Dock and Pumphouse. The iconic Titanic Belfast building sits next to the renovated S.S. Nomadic, the mighty Titanic's tender.

Northern Ireland Golf

Northern Ireland is home to some of the world's best golf courses, such as Royal County Down and Royal Portrush.

Whiskey tasting at the oldest working distillery

Bushmills' portfolio includes five award-winning whiskeys and is the only distillery in Ireland to make triple-distilled malt whiskey and offers tours and whiskey tasting sessions all year round. ■

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ACB NI Region Spring Meeting – April 2019

Amy Wotherspoon, Trainee Clinical Scientist, Belfast Health and Social Care Trust (BHSCT), Northern Ireland

Innovations in Diabetes

Dr Maurice O'Kane, Consultant Chemical Pathologist in the Western Trust, started the day off by giving an overview of the recent advances and innovations in the management of diabetes. He talked about SGLT2 inhibitors, flash glucose monitoring, and the use of big data in diabetes. SGLT2 inhibitors are a relatively new class of medication, which inhibit the SGLT2 receptor present in the renal tubule thus preventing the reabsorption of glucose. Dr O'Kane gave examples of previous medications that all relied on insulin-based mechanisms and include metformin, insulin replacement therapy, and GLP-R1 agonists. He also explained that due to the glycosuria induced by SGLT2 inhibitors, they also cause weight loss and a reduction in blood pressure. They have also been shown to have beneficial effects on clinical outcomes, including vascular events and reducing the progression of renal disease.

He then discussed the use of flash glucose monitoring in comparison to older monitoring systems. He discussed the Freestyle Libre as an example, which Theresa May uses, explaining how it continuously measures interstitial blood glucose, with the patient being able to take a reading simply by waving their device over the monitor that is usually place in the back of the upper arm. He also highlighted some issues with the technology, including the lag time between blood glucose and tissue glucose, which could lead to patients spending longer periods of time in hypoglycaemia. However, patients have reported that they are very satisfied with the device.

Finally, Dr O'Kane discussed the use of big data in diabetes, highlighting a recent paper published in the *Lancet Diabetes and Endocrinology* (reference: Ahlqvist, E., Storm, P., Käräjämäki, A., Martinell, M., Dorkhan, M., Carlsson, A., Vikman, P., Prasad, R.B., Aly, D.M., Almgren, P. and Wessman, Y., 2018. Novel subgroups of adult-onset diabetes and their association with outcomes: a data-driven cluster analysis of six variables. *The Lancet Diabetes & Endocrinology,* 6(5), pp.361-369), which suggested that there are five subtypes of type 2 diabetes based on a number of patient characteristics.

Diabetes in a Resource Poor Environment

Prof Elizabeth Trimble, Queen's University Belfast, spoke about the diagnosis and management of diabetes within a rural area of Ethiopia. She had spent time within the community and explained the setup of the diabetes clinics, how patients were educated, and how they managed their condition despite the lack of facilities we would take for granted (e.g. fridges for insulin storage). She also explained the role of genetic and environmental factors in the development of diabetes in comparison to the Western countries. This research is of great interest and may give rise to better understanding for mechanisms of diabetes development and differing pathophysiology that may exist in different parts of the world.

Meeting speakers and organisers (from left to right): Dr Graham Lee, Dr Clodagh Loughrey, Dr Tom Trinick, Dr Kirsty Spence, Dr Kathryn Ryan, Dr Michelle Hookam, Dr Elinor Hanna, Dr Derek McKillop

Opportunities and Challenges in Clinical Scientist Training

Dr Michelle Hookham, Trainee Clinical Scientist in the Belfast Trust, gave an insight into the Scientific Training Program (STP) which all Trainees undertake to qualify as a registered Clinical Scientist. She explained that the program consisted of completion of an MSc with the University of Manchester, a work-based portion, and the Observed Structured Final Assessment (OSFA). The completion of the MSc includes conducting a research project to submit as a dissertation. The work-based portion consists of competencies, assessments, and an elective. The OSFA consists of 12 stations in total that present the Trainee with various tasks to complete within a set period of time. Dr Hookham then went on to present her findings from her research project, which investigated if there was a need for sex and age specific cut-off values for high sensitivity troponin. She finally talked about her elective experience, in which she spent time with the Homeless Public Health Nursing Service within the Belfast Trust. She explained that the aim of the team was to assist homeless people to access health care services and in turn, improve their health and health care experience. She also then went on to explain what services and education the team provide, including harm reduction. This was a very interesting overview of the STP and work that Dr Hookham had conducted, and highlighted the various components to be completed for the STP.

LDL Cholesterol – Calculate or Measure?

Dr Ahai Luvai, Consultant Chemical Pathologist in the Newcastle Upon Tyne NHS Foundation Trust, raised the debate of whether it is best to calculate or measure LDL cholesterol. According to EQA returns, the vast majority of laboratories, including our own, calculate LDL cholesterol, with only a small number measuring it. Dr Luvai highlighted other potential equations as alternatives to the Friedewald equation, which is predominately used in practice currently. Of particular interest, he highlighted the Martin Hopkins equation, which introduced the possibility of being able to adjust for the level of triglycerides. This is in contrast to the Friedewald equation, which is only valid if triglyceride levels are less than 4 mmol/L. However, he stressed that the Martin Hopkins equation, although done in large derivation and validation cohorts, had not been externally validated. He then went on to describe some methods that could be used to measure LDL cholesterol, including Beta quantification and homogeneous assays, and highlighted potential issues, including poorer assay performance in those with dyslipidaemia versus those without disease and the heavy burden of work for the assays. The discussion of what should be done then focused on guidelines moving towards the use of non-HDL rather than LDL, however NICE use an LDL cut-off for the prescription of monoclonal antibody therapy. In addition, due to the different

available therapies, LDL target levels are much lower and can affect different aspects of the pathway, thus changing the size and shape of composition and therefore making them harder to measure. This talk highlighted several issues which require consideration for future practice.

A Cardiologist's Perspective on PCSK9 Inhibitors

Dr Ian Menown, Consultant Cardiologist in the Southern Trust, talked about the use of the LDL lowering therapy PCSK9 inhibitors within Cardiology and the outcomes associated with treatment.

He highlighted that although the UK has seen a significant reduction in deaths from cardiovascular events, they still account for a quarter of causes of death. In particular, he highlighted that Northern Ireland were performing well, seeing improved survival from acute myocardial infarction with more than 70% of people expected to survive. He then went on to give an overview of the evidence for the use of different cholesterol lowering medications within Cardiology. Increased levels of Low Density Lipoprotein (LDL) is associated with an increased risk of coronary heart disease. Medications such as ezetimibe, statins and Proprotein Convertase Subtilsin-Kexin type 9 (PCSK9) inhibitors can be used to lower levels of LDL. Dr Menown presented evidence from various studies showing the effect of these medications and the risk reduction achieved with regard to vascular events. Despite evidence of beneficial effects with regard to vascular events, particularly in the case of PCSK9 inhibitors, he demonstrated that uptake within Cardiology is limited, even with recommendations by NICE. He suggested that more collaboration between lipid and cardiac clinics may be beneficial in terms of patient management.

Homozygous FH – A Management Challenge

Dr Clodagh Loughrey and Dr Gary Benson, Consultants in Clinical Chemistry and Haematology, jointly presented a case of homozygous familial hypercholesterolaemia (FH). FH is an inherited autosomal dominant disorder of lipid metabolism, which increases levels of lipids in serum. The homozygous form of the condition is considerably more severe than the heterozygous form, and has an incidence of approximately 1 in 1 million.

Dr Loughrey highlighted that this was the first ever emergency referral to the lipid clinic that she had received. Initial treatment did not reduce LDL levels, which prompted the need for LDL apheresis. This is a process whereby blood is filtered to remove the LDL particles whilst all other components are returned to the circulation. As this is currently unavailable in Northern Ireland and the patient did not want to travel, plasma apheresis was performed, in which all the patient's plasma is removed with all other components then being returned.

Dr Benson explained the procedure and that it was not a long term fix due to the associated side effects. The patient is currently on the waiting list for a liver transplant, which is hoped will normalise their lipids.

An Unusual Lipid Profile

Dr Elinor Hanna, Consultant Chemical Pathologist in the Northern Trust, presented a patient with an unusual lipid profile, demonstrating a very low HDL level, and low ApoA1 and ApoA2 levels. Their cholesterol ester levels were low with free cholesterol being elevated.

It was suspected that the patient had Lecithin Cholesterol Acyltransferase (LCAT) deficiency, which was confirmed by molecular analysis. LCAT deficiency is a rare condition caused by mutations in the

LCAT gene. The enzyme LCAT plays a crucial role in the HDL maturation process. LCAT deficiency predominately affects the eyes and kidney, with other features including hepatomegaly, splenomegaly, lymphadenopathy, or atherosclerosis. The condition causes the cornea to become cloudy due to the build-up of cholesterol and also causes damage to the kidneys due to the formation of lipoprotein X.

Dr Hanna went on to explain that the patient had an unexpected drop in their ACR after becoming pregnant. The patient subsequently developed proteinuria and hypertension, leading to a C-section delivery due to a diagnosis of pre-eclampsia. Of note, the patient's HDL levels increased during pregnancy, whilst lipoprotein X was not detectable during pregnancy but reappeared during the post-partum period. The increase in HDL was subsequently explained by a change in the method. The patient's ACR subsequently fell when their dose of ACE inhibitor was increased postpartum.

Does Corporate Memory need Revision?

Dr Dereck McKillop, Consultant Clinical Scientist in the Southern Trust, discussed two patients with different conditions highlighting analytical issues within the laboratory that should be considered. The first patient presented with an elevated troponin T measurement at 18 years of age, which seemed out of sync with their clinical condition. It was subsequently discovered their troponin T was elevated due to dermatomyositis, which is a condition associated with a distinctive skin rash and muscle weakness. When a troponin I measurement was performed by another lab, a normal result was obtained. This case highlighted the need for careful interpretation of laboratory results in light of clinical details.

The second case was an older patient who presented with inconsistent potassium measurements. The patient had been receiving treatment for chronic lymphoid leukaemia (CLL) and was being investigated for tumour lysis syndrome. When the patient's potassium was measured, a result of 10.3 mmol/L (RR 3.5-5.3 mmol/L) was obtained, whilst phosphate and magnesium were normal. A previous result had demonstrated a similar value, meaning the patient was started on treatment to lower the potassium level. However, as samples had previously been sent in lithium heparin tubes (normally sent to avoid diagnosis of pseudohyperkalaemia due to increased white blood cell count), the possibility of reverse pseudohyperkalaemia was raised. Subsequent results obtained on samples in serum tubes demonstrated a normal potassium result. This case served to remind staff of the importance of tube type on analysis.

Is TSH Sufficient to Assess Thyroid Function?

Dr Kirsty Spence, Principal Clinical Scientist in the Belfast Trust, spoke about two cases demonstrating the benefit of measuring free thyroxine (fT4) in addition to thyroid stimulating hormone (TSH). The two cases both returned TSH results within the reference range with abnormal fT4 results, which would have been missed had fT4 not been measured. Current guidelines from the British Thyroid Foundation suggest that it would be prudent to measure both TSH and fT4 as measurement of only TSH will fail to identify some patients with thyroid disorders and hypopituitarism. However, due to cost saving initiatives, in some laboratories measurement of TSH only has been opted for. These two cases highlight the potential benefit of measurement of both TSH and fT4 in the face of cost saving. ■

Industry Insights: February 2020

Doris-Ann Williams, Chief Executive, BIVDA

I feel like we have started a new decade with a burst of activity at BIVDA during January. Finally there is political certainty and we will have started the process to leave the EU by the time you read this. I won't comment on the rights or wrongs of this decision but to have some degree of certainty and for other activity to commence is very welcome.

There was some alarm early in the month when it appeared the Government would be wanting immediate divergence from any EU regulations although the latest rhetoric seems to be no unnecessary deviation – obviously open to speculation on what is necessary and also timing for change. Certainly the 'new' IVD Regulation has been negotiated with strong leadership by MHRA and it makes little sense to bring in yet another regulatory framework to wrestle with.

BIVDA is holding a specific seminar on 25th February (probably first in a series of seminars) for distributors and other economic operators (other than direct manufacturers) who will need to understand the new requirements they will now have under the EU Regulation. There also will be a lot of input required to the Medicines and Medical Devices Bill which will be the framework for any UK laws as an enabling act and will be put in place this year.

I will also be representing pathology suppliers on a Board initiated by NHS Digital to produce a Unified Test List (UTL) using snomed codes for all pathology specialties. The ACB has also been asked for representation on this Board. The first release of codes will be for blood sciences and hopefully this will achieve many

ambitions held for the National Laboratory Test Catalogue.

There continues to be a lot of activity towards supporting both innovation and adoption of new technology. BIVDA has been working with both the Cancer team at NHS England and with Cancer Research UK on achieving ambitions for early diagnosis and better survival rates. Meanwhile work continues under the Accelerated Access Collaborative with expectations for funding mandation from 1st April for just a very few medical technologies – a welcome starting point towards an equal playing field for funding alongside drugs.

The issue of Antimicrobial Resistance remains high on our agenda also and it is

frustrating that funding issues make better use of testing strategies in the community from supporting decision making around reduction of use of antibiotics. The AMR Diagnostics Programme Board has been re-started by the Chief Scientific Officer and hopefully the imperative to retain the use of effective antibiotics will enable the changes.

There are a whole host of other activities which will continue at BIVDA from industry representative credentialing, working to improve the procurement process, showcasing how IVDs and pathology can help underpin the ambitions of the Long Term Plan and working with the wider landscape such as the NIHR MICs and the AHSNs. Maybe I am overly optimistic but I do think the 2020s could really be the decade for diagnostics! ■

Association for Clinical Biochemistry & Laboratory Medicine

Council Nomination Form

Election of Officers / Council Member 2020

We, the undersigned, being Members of the Association nominate

Name .....

Address .....

.....

.....

For election as National Member of Council*

Name 1. ....
Capitals Signature

Name 2. ....
Capitals Signature

Name 3. ....
Capitals Signature

I am willing to undertake the duties and responsibilities of this office if elected.

....
Signature Date

*Please note only Ordinary and Honorary Members of the ACB may be nominated for the position of National Member of Council.

If there is more than one nominee for any of these positions, a ballot will be held with all voting members. (see Bye-Laws of the ACB items 2 & 3 and 8).

This form, duly countersigned, to be returned to:
The Administrative Office
Association for Clinical Biochemistry & Laboratory Medicine
130-132 Tooley Street, London SE1 2TU
before 6th March 2020

ACB News Crossword

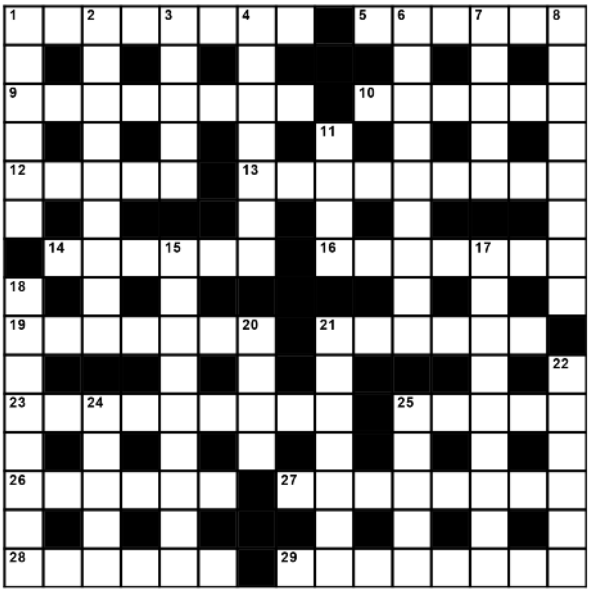
Set by Rugosa

Across

1 Entire account dealt with an aminoacid product (8)
5 Rumour dissembling declarant let off (6)
9 User's software sorted index for supplement (8)
10 Lash slipshod municipality that lacks any tip (6)
12 Robert discovered a law in 1662; Danny celebrated the NHS in 2012 (5)
13 Chemical process renders no aid to team (9)
14 Clarify about monetary penalty (6)
16 Wet ENT doctor is upset (7)
19 CNN censored un-American activity syndrome (7)
21 Some University governors seen at disturbance (6)
23 First initial public offering with latent development gives promise (9)
25 Once more, rule out neuralgia treatment (5)
26 Gas circle coordinates information (6)
27 Refer seven: possibly one will confirm the truth (8)
28 Have me lead your old novice group? (6)
29 New stationery is not needed for person appointed to make business decisions (8)

Down

1 Irritable having baby cry, disturbing last day off (6)
2 No limits to upset, with mayhem about lung condition (9)
3 Lighter than the long homophone, heavier than the short (5)
4 Objectionable noise about doctor turning up (7)
6 Brio difficult to maintain without tea first (9)
7 Partially laciniate compound gland structures (5)
8 Authoritative note (not admin origin) (8)
11 Constant company (4)
15 Tremendously exciting point involving MS myelin (9)
17 Laboratory method of the recalcitrant traditionalist – no dials! (9)
18 Place for rehydration (or perhaps treating overdose?) (4,4)
20 Sarcastic tart (4)
21 Well-heeled virtuous person confiscated naughty novel (7)
22 Generally dissipated, lacking all vigour (6)
24 Secret assignation in a biochemistry storeroom (5)
25 Morning batting, getting a duck for a chemical group (5)



Solution for December's Crossword

IDK Faecal Bile Acids

Identify Bile Acid Malabsorption in Chronic Diarrhoea

- Applicable to multiple patient groups including IBS, Crohn's disease, post cholecystectomy, coeliac disease
- Suitable for routine laboratory use
- 9 minute assay time, 96 well plate format
- Uses a universal extract, enabling multi-analyte stool testing
- Straightforward, cost-effective alternative to expensive & lengthy radioactive testing methods

Hear more about the clinical utility & performance of this assay at the ACB Spring Meeting, Stirling, 26th March 2020.

Learn more at www.biohithealthcare.co.uk/BAD

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Innovating for Health

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EXETER CLINICAL LABORATORY INTERNATIONAL

Contact Details:

Exeter blood Sciences laboratory, Royal Devon & Exeter hospital, level 2 Area A, Barrack Road, Exeter, EX25DW

Email: rde-tr.bloodsciencesadmin@nhs.net

Website: www.exeterlaboratory.com

Exeter Clinical Laboratory Biologic Monitoring Services

The use of biologic drugs has rapidly expanded in recent years. With therapeutic drug monitoring using drug and anti-drug antibody measurements being utilised to optimise treatment.

Exeter Clinical laboratory is a national referral service for biologic drug monitoring . We provide Infliximab and Adalimumab testing for more than 150 hospitals across the whole of the UK & Ireland forming greater than 17,000 tests per year.

We provide guidance on appropriate test utility for our users underpinned by research by ourselves and the internationally recognised Exeter IBD research group at the University of Exeter.

Companion Diagnostics Service

Exeter laboratory are able to offer free of charge Infliximab drug and total ADA testing for patients on the following biosimilar agents: Infliximab: Remsima, Inflectra, Flixabi, Zessly

Adalimumab: Humira, Hyrimoz, Hulio, Imraldi, Amgevita. Terms and conditions of this complimentary service can be found on our website.

BIO-THERAPEUTIC	TAT	PRICE	Free of charge testing available for selected biosimilars**
Infliximab drug levels	2 weeks	Free / £29.50	Remicade, Remsima, Inflectra, Flixabi, Zessly
Infliximab total ADA levels	2 weeks	Free / £29.50	
Adalimumab drug levels	2 weeks	Free / £29.50	Humira, Hyrimoz, Hulio, Imraldi, Amgevita
Adalimumab total ADA levels	2 weeks	Free / £29.50	
Vedolizumab drug levels	4 weeks	£29.50	NA
Vedolizumab free ADA levels	4 weeks	£29.50	NA
Certolizumab drug levels	4 weeks	TBC	NA
Certolizumab free ADA levels	4 weeks	TBC	NA
Ustekinumab drug levels	4 weeks	TBC	NA
Ustekinumab free ADA levels	4 weeks	TBC	NA
Golimumab drug levels	4 weeks	£29.50	NA
Golimumab free ADA levels	4 weeks	£29.50	NA

Exeter Clinical Laboratories are a centre of excellence, internationally recognised for our research expertise and specialist services in gastroenterology and diabetes.

EXCELLING IN SCIENCE & SERVICE

www.exeterlaboratory.com

UNIVERSITY OF EXETER | MEDICAL SCHOOL

NHS Royal Devon and Exeter NHS Foundation Trust