

Clinical Biochemistry News



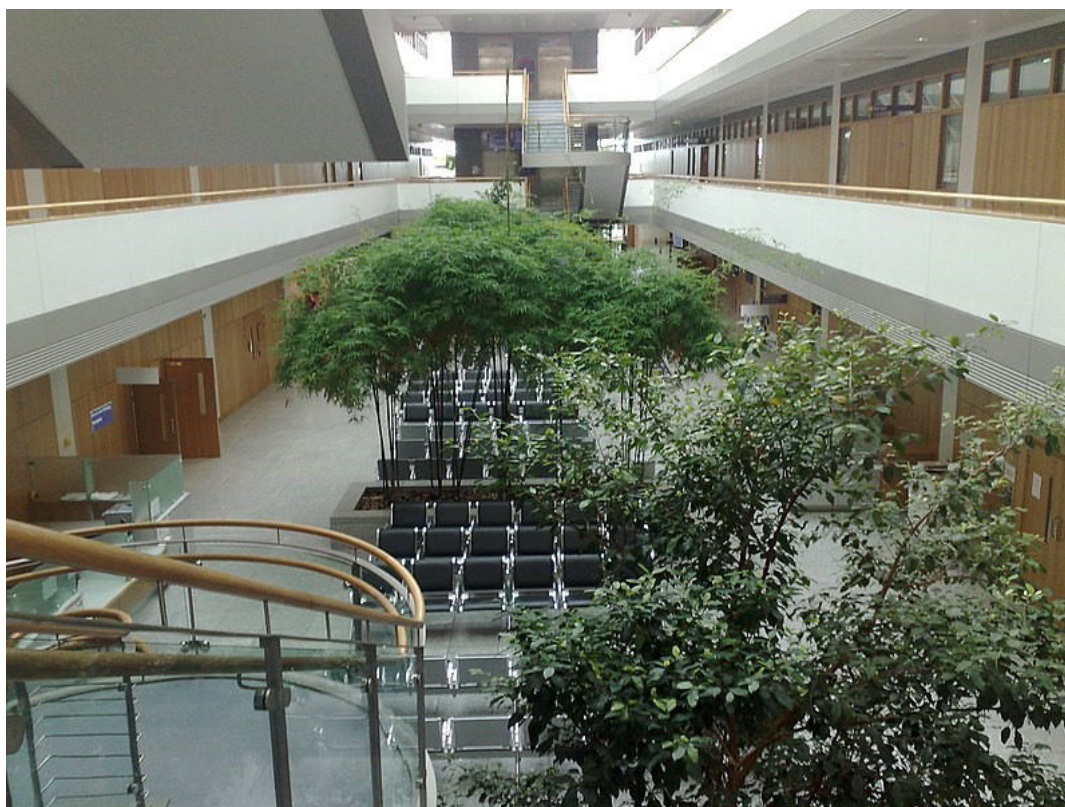
ACBI



ACB

July 2021

Newsletter of the Association of Clinical Biochemists in Ireland
and the Association for Clinical Biochemistry and Laboratory Medicine (Republic of Ireland Region)



The Atrium of St. Vincent's University Hospital, Dublin.
This year's joint ACB (RoI)/ACBI Meeting, normally held in SVUH, took place via Zoom (report inside). It is hoped that the 2022 meeting will return to in-person.

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Report on ACB Republic of Ireland Region and ACBI Scientific Meeting, January 2021

Edited by: Dr. Peadar McGing and Karen Heverin

Contributing authors: Dr. Ciara Cunning, Dr. David Green, Karen Heverin, Jim Kelly

This year's ACB Republic of Ireland and ACBI Scientific Meeting was titled '**The new normal in the Clinical Biochemistry laboratory**'. The meeting was held in the midst of our 3rd level 5 lockdown due to COVID19 and thus was held online via Zoom. An array of fantastic talks and members' papers were presented, all with excellent speakers and thought-provoking questions from the attendees.

The Paediatric Diabetes Out-Patient Service

The opening presentation was titled "**Accommodation of a paediatric diabetes out-patient service to a pandemic**" by Dr Orla Neylon. This talk particularly highlighted the significant care burden of paediatric type 1 diabetic patients and the possible solutions being sought. Dr. Neylon gave us valuable insight into the technology available for these patients such as the 'closed loop' insulin pump - an exciting piece of technology in which a continuous subcutaneous glucose sensor (rather than single prick time-points) relays information to a pump acting as an artificial pancreas and thus preventing the need for multiple daily injections. It was also brought to our attention not only the trouble with young children but also adolescent diabetic patients. One case showed a relatively well controlled glucose level as noted (falsely) by the adolescent patient, however their HbA1c analysis suggested otherwise, thus this case strongly highlights the importance of HbA1c analysis for glucose monitoring.

Dr. Neylon presented a 2018 pilot project on virtual clinics which turned out unknowingly to be a practice run for what would become the "new normal" during the COVID19 pandemic. In March 2020 when outpatient appointments were cancelled Dr. Neylon switched to virtual appointments via Webex and patient HbA1c samples were sent in a capillary tube via post in 'franked' prepaid envelopes. The transition to virtual clinics ran very well but not without a few hiccups due to patients having patchy or no internet services, or failure to collect and package the capillary sample correctly. This led to post-lecture discussions among attendees on the possibility of using dry blood spots for HbA1c analysis, however many noted the more manual pre-analytical method compared with automated HbA1c analysis which is practical only with small numbers of patients.

On a very positive note, a large percentage of capillary samples during this pandemic were successful thus making the team rethink their OPD load. Overall, it is promising to learn that patients and their families are relatively happy to continue with virtual appointments with the suggestion of 1 or 2 in-person appointments in between. This left us with some important food for thought about the continuation of virtual appointments to OPD, not only during the pandemic but

when everything returns to normal, or should I say “the new normal”!

Research During the Pandemic

The second talk of the day was by Prof. Joe Eustace of University College Cork, who spoke of “The Challenges of Undertaking Research During the Pandemic”. Prof Eustace outlined some of the challenges in conducting clinical trials in a general sense, before going on to describe the current set of circumstances brought about by the COVID-19 pandemic. One of the key challenges posed upon research studies in our present circumstances is that of “time pressure”. The pandemic has necessitated a redirection of much research effort toward the goals of treating, preventing and ultimately eradicating a life threatening contagion, one that a little over a year ago did not even exist. The constraints the pandemic has placed on our day to day lives, and the threat to our most vulnerable, means that solutions must be sought at an unprecedented rate. This poses great challenges for researchers, as was noted during the talk; if the preparation stages for a research study have been started after a pandemic has already begun, by the time ethical approval has been obtained and the study is underway, the first wave will already be in sharp decline. This demonstrates the critical importance of early preparedness in advance of the onset of a potential pandemic when planning research.

The talk also pointed out the pressure experienced by scientific and lay individuals alike, to undertake some kind of action against the pandemic, in some cases without any proof of the efficacy of their actions. Prof Eustace drew upon the example of hydroxychloroquine use which gained some popularity at the beginning of the pandemic despite a lack of evidence that this would have any benefits, and the potential for this drug to cause harm. This was compounded by some individuals in the scientific community who published falsified data attesting to the efficacy of the drug, research which was later retracted upon being determined to be false by other researchers.

Prof Eustace finished up with a discussion on how political and private interests in the present environment often fail to align with, and in some cases take precedence over, the overall interests of the general public. He used the example of FDA approval for the emergency use the antiretroviral drug Remdesivir. This decision was based upon data from early smaller studies which indicated that the drug was efficacious in treating Covid-19. Later however, higher-level evidence published by the World Health Organization proved to be more disappointing. However, the FDA ultimately opted to approve the drug for use in the treatment of Covid-19 despite this, a decision which would allow for a potentially lucrative deal with the European Union. This example highlights the challenges faced by researchers in serving the general public versus the monetary interests of pharmaceutical and other corporations.

After Prof. Eustace’s talk it was time for coffee break. That’s definitely one of the down-sides of pandemic-enforced zoom meetings. We all miss the chat that you used to get at conferences, but

on this occasion there was no choice but to run off and make our own tea or coffee.

Remote Sampling for Mass Spec Tacrolimus analysis

The meeting resumed with speaker David Marshall, senior clinical scientist at Wythenshawe Hospital in Manchester. David spoke about the use of Mitra devices, an interesting and practical alternative to using capillary tubes or blood spots for patients to send samples requiring LC-MS/MS analysis after receipt. David described research studies carried out by the group to validate Mitra devices in collecting samples for LC-MS/MS analysis of Tacrolimus and creatinine levels in renal transplant patients, for the purpose of therapeutic drug monitoring in these patients. Tacrolimus is of course a highly toxic immunosuppressant with a narrow therapeutic window with low levels increasing the risk of graft rejection, and high levels associated with multiple dangerous complications. A sudden rise in creatinine is often the first sign of rejection in kidney transplant patients and so such patients must also have creatinine monitored regularly. Using Mitra devices, both of these can be facilitated remotely, and the group showed promising concordance (albeit with some bias and variability) with better established routine whole blood, serum and plasma measurements of these analytes. This practice greatly lowers the burden on patients posed by attendance at outpatient clinics and decreases strain on the time of clinicians managing these patients.

The covid-19 pandemic has provided the impetus to bring this methodology out of a research setting into clinical practice with early data indicating high levels of satisfaction from both patients and clinicians. The results proved sufficiently promising that the group are building upon this repertoire of LC-MS/MS tests that can be run using Mitra technology, with David describing more recent work toward validating the devices for the use of monitoring the standard steroid panel of testosterone, androstenedione and 17-hydroxyprogesterone, which showed equally promising results.

Like many of the talks on the day, the main takeaway from this one was the often overlooked positive aspects that can be taken from terrible situations such as that we face currently. As with Dr. Neylon's morning talk, we see again how the challenges posed by covid-19 pandemic are acting as a catalyst to advance technologies and methodologies in ways that will likely remain long after we have emerged on the other side of covid-19.

Accreditation Inspection in Covid Times.

The final speaker of the morning was Ruth O'Kelly, INAB Technical Assessor who has recently retired from the Coombe Women and Infants University Hospital as Principal Biochemist. Ruth provided a very interesting talk on the process of assessing laboratory compliance with the relevant ISO standards in the virtual age along with its various challenges and opportunities. Ruth highlighted the challenges presented to labs as a result of COVID. She commended labs for the hard work done in maintaining their high standards while faced with the staff shortages, supply

chain issues, altered working hours etc. that came with the pandemic.

Amongst the many topics covered Ruth highlighted the need for labs to ensure good quality IT connectivity was in place and that this should be tested in advance of inspection day, so as to minimise the risk of IT glitches on inspection day. It was also highlighted that labs should have all necessary documentation readily available to present to assessors on the day in order to make the process as smooth as possible, or ideally forwarded to INAB pre-inspection date.

The main challenges posed by remote inspection were that a lot of documents must be submitted to INAB prior to inspection and that this leads to very detailed review of documents prior to inspection day. Another major issue was the difficulty some sites had with IT issues on the day. This has led to the inspection period becoming more protracted than originally planned at some sites.

Some of the main opportunities of remote assessment included the fact that assessors did not need to travel to various sites. The submission of documents prior to inspection day did help in making the assessment process run more smoothly. Prior submission of documents also gave assessors a good feel for how labs operate prior to visit day, this would not always have been the case in the past.

In conclusion Ruth praised the dedication and hard work shown by the laboratory staff who commit to maintaining their QMS in the face of current challenges. Ruth also commented that the current pandemic has highlighted to the public the important work carried out by clinical laboratory scientists and that it was good to see the public acknowledge the essential work we do every day.

Members' Papers

The day finished with some shorter member presentations in lieu of our usual posters. These were all of exceptional quality, and were surprisingly dynamic given that they had to be recorded in advance of the day! However, there could only be one winner, and the prize for the best member presentation went to Ms Ruth Cullen, Senior Clinical Biochemist at the Mater Misericordiae University Hospital for her presentation detailing the results of a 21 years long retrospective study which assessed the value of gamma-GT measurements in differentiating whether raised alkaline phosphatase levels in patients are of liver or bone origin.

Finally, a word of thanks must go to all the organisers and helpers on both sides of the Irish Sea. As this was our first big meeting to be operated remotely we greatly appreciated the fantastic work of the ACB Head Office, in particular Mike Lester and Christine Hall-Shelton. Their work behind the scenes both in preparation of the meeting and with the running of the virtual platform on the day ensured a smooth operation and a very successful event.

Members' Publications

Joyce CM, O'Shea PM, O'Donoghue K.

Authors' reply to 'Is there a role for C-reactive protein during and after labour?'. *Ann Clin Biochem.* 2021 Jun 7;:45632211020774. doi: 10.1177/00045632211020774.

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Martin WP, Bauer J, Coleman J, Dellatorre-Teixeira L, Reeve JLV, Twomey PJ, Docherty NG, O'Riordan A, Watson AJ, le Roux CW, Holian J. Obesity is common in chronic kidney disease and associates with greater antihypertensive usage and proteinuria: evidence from a cross-sectional study in a tertiary nephrology centre. *Clin Obes.* 2020 Dec;10(6):e12402. doi: 10.1111/cob.12402.

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Historical Snippets from Peadar McGing

From a Book Review

While researching some historical information from the late 1800's I came across an interesting snippet in relation to book reviews. It is slightly tongue-in-cheek but is probably just as relevant today (without, of course, the assumption of 'his').

A review is supposed not to be complete without a little fault-finding; the critic, from his lofty seat, looks down and condescends to instruct the author regarding the work on which the latter has spent months of loving care, and of which the former knows very little.

The book review in question was carried in the journal *The Irish Naturalist*, April 1898 and was of a book entitled *Life and Letters of Alexander Goodman Gore*. I also liked the following sentence from the opening paragraph.

One's first thought on looking at the bulkiness of the book, was that it had been over-loaded with matter of but trivial or transient material, such as marred a similar botanical biography we noticed recently.

Some thoughts for all aspiring to be writers.

National Health versus Tourist Travel

Following the opening lecture of St. Vincent's Hospital Medical session the Irish Times of October 6th, 1909, carried the following brief exchange that should easily resonate with readers over a century later. After a vote of thanks to Mr. Fagan, surgeon, for his *lucid, interesting, and entertaining* paper, The Irish Times reporter quotes as follows.

Dr. Cox seconded the motion. He said, as regards the statements that the statistics

about tuberculosis had deterred the visit of excursionists to Ireland, he thought the life of a nation was more important than any tourist traffic. (Hear, hear).

Hand Washing in Hospital

The same edition of the Irish Times also carried a report on the *New Operating Theatre* in St. Vincent's. Given all the focus on correct hand-washing in the current day healthcare system, I found it interesting that the reporter from over a century ago was particularly impressed by this aspect of the theatre hygiene control -

Special taps for supply of hot and cold water to sinks and basins have been provided, and these are of the combined mixing form worked by elbow action, so that the hands of the surgeon do not come into contact with the operating lever.

Advance Notice - IEQAS Conference

This year's IEQAS Annual Participants' Conference will be held on-line, via the Zoom platforms. The date is Thursday 7th of October, and the meeting will run from 09:30 to 16:00. The programme is currently being finalised but will follow the familiar format featuring morning Plenary Sessions and afternoon discipline-specific workshops. Please mark the date in your diary. Further communications will be issued by IEQAS nearer the time.

2021 marks the 40th anniversary of IEQAS. In December 1980 a working group was formed to establish a national quality assurance scheme and the first distribution took place in 1981. At the conference we will be including a small celebration of that achievement. One of the founder members, Dr. Ned Barrett, is still active on the HbA1c review group, while a second founding member, John Brady, has only recently 'retired' from IEQAS committees. If any reader has memories / stories relating to IEQAS — conferences / schemes / people — I would love to hear from you [email secretary@acbi.ie or info@ieqas.ie].

Dr. Peadar McGing, Vice-Chair IEQAS and Secretary ACBI

European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) links

www.clinical-laboratory-diagnostics-2020.com

This is a link to "Clinical Laboratory Diagnostics" a textbook originally written by Lothar Thomas in 1968 and now updated to 2020 with contributions from over 60 experts. Each chapter (53 in total) outlines a detailed overview of the topic in question followed by a discussion of the relevant biomarkers. It is cost free and ad free. The opening chapter (Register of Diseases) provides hyperlinks to relevant information in each section of the book.

www.eflm.eu/upload/PGC-Biostatistic-2021.pdf

Biostatistics in Laboratory Medicine.

Online course.

01.09.2021 - 03.11.2021

Cost: €150,00 for EFLM Academy Members.

€200 for non-members.

Comprehensive biostatistics course incorporating lectures on statistics theory and practical interactive sessions. See link for full details.



Websites

[The Calculator Site](#)

Wide range of calculators and converters.

[Science Daily](#)

Latest science news.

[Science of Cooking](#)

Find out what's happening to your food while it's cooking.

[Locus](#)

Latest news/reviews/features for science fiction/fantasy fans.

[Martin Rees](#)

Astronomer Royal and co-founder of the Centre for the Study of Existential Risk. His site details the numerous risks to life and the planet.



Publications in the News

The benefits (or not) of coffee



Two different conclusions on coffee intake and health were published recently using the UK Biobank cohort. The first ([Vu T.-H.T et al. Dietary Behaviors and Incident COVID-19 in the UK Biobank. Nutrients 2021, 13, 2114.](#)

doi.org/10.3390/nu13062114 - [free]) finds that habitual consumption of 1 or more cups of coffee per day was associated with about a 10% decrease in risk of COVID-19 infection. Polyphenols, major constituents of coffee, have antioxidant and anti-inflammatory properties. It is speculated that coffee has an immunoprotective effect. Previous studies have shown a negative correlation between coffee consumption and inflammatory markers such as CRP and IL-6.

The second paper ([Zhou A, Hyppönen E. Habitual coffee intake and plasma lipid profile: Evidence from UK Biobank. Clinical Nutrition 2021, 40\(6\), 4404-4413. doi.org/10.1016/j.clnu.2020.12.042](#) - [behind a paywall]) takes a less benign view. With about 3 billion coffees consumed daily worldwide are there any negative health associations? Coffee beans are known to contain significant amounts of cafestol, a diterpene, which is a known cholesterol agonist. This study (and others) has demonstrated a linear association between coffee intake and increased serum cholesterol with most of the rise in the LDL component. Cafestol is thought to interact with several of the enzymes in the cholesterol homeostatic pathway. Interestingly, cafestol is present mainly in unfiltered coffees (e.g. French press and various espresso combinations) but is almost absent in coffee filtered through paper. Decaffeinating coffee doesn't remove cafestol. The message, particularly for those with a genetic predisposition for elevated cholesterol, is stick with filtered joe.



ACBI Annual Conference

The 43rd ACBI Conference: 11-12th November 2021

The 43rd ACBI Conference will be held virtually this year.
Please find the provisional programme below.

11th November 2021

Trainee Day: Critical appraisal skills programme

Evening virtual social event – quiz

12th November 2021

Conference Programme: 9 a.m. to 6 p.m.

Topics will include:

- Emerging inflammatory biomarkers
- The National Paediatric Sepsis Implementation Plan
- Digital alert systems for sepsis in the NHS
- Investigation of the infertile couple
- The role of the laboratory in IVF treatment
- Laboratory investigation of recurrent miscarriage
- Recent issues in laboratory and point-of-care assessment of renal function
- Renal transplantation
- eGFR and ethnicity

Sponsor videos and links will be available to view throughout the conference.

Eminent national and international speakers will deliver the programme.

There will also be an opportunity for delegates to virtually present posters. Selected case presentations and posters will be invited to present on the day and compete for prizes.

Further information, including the final programme, abstract submission requirements and registration details, will be made available over the coming months.

Listed here are the members of ACBI Council and ACB Republic of Ireland Committee

Council

Dr. Seán Costelloe – President
Dr. Jennifer Brady – Vice-President
Dr. Peadar McGing – Secretary
Dr. Marguerite MacMahon – Treasurer
Dr Paula O'Shea – Member
Dr. Graham Lee – Member
Ms. Mary Stapleton – Member

ACB Republic of Ireland Committee

Dr. Jennifer Brady - Chair, ACB Council Representative
Ms. Karen Heverin - Secretary/Treasurer
Dr. Janice Reeve - Regional Tutor
Dr. Barbara MacNamara - Regional Trainee Representative
Dr. Brendan Byrne - Regional Audit Lead
Dr. Paula O'Shea - ACBI Representative
Ms. Alison Bransfield - Ordinary Member

The Mater Hospital recently ran a poetry competition as part of the WHO World Hand Hygiene Day 2021: Seconds save lives - clean your hands! Below is Peadar McGing's entry which received the runner-up prize.

Seconds Count

If you're driving along, and your mind it slips
 You could so easily crash,
 If you're using a hammer and don't concentrate
 Your fingers you could easily mash.
 Sometimes it just takes a few seconds
 For awful disaster to strike,
 But using just seconds to help someone
 I bet that is something you'd like.

Your hands on their own they look harmless
 Working hard to help patients get well,
 But if you don't make the effort to clean them
 The result could be worse than bad smell.
 Bacteria and viruses that you can't see
 Can be picked up from here and from there,
 If your hands you don't wash, the bugs you'll pass on
 And you know that is really not fair.
 To thoroughly wipe and to clean your hands,
 Takes just a few seconds I say,
 Use water and soap or those cleaning gels
 And magic the bugs away.
 So remember the danger that you can't see
 For patients, for colleagues, for you,
 Clean hands keep sickness and death at bay
 Keep cleaning your hands, oh please please do.



Clinical Biochemistry News is back and we're looking for you to release your inner muse.

If you have something you would like to contribute then what are you waiting for.

You're thoughts on anything you think is related in some way to Clinical Biochemistry are welcome.

If you've been to a great meeting (physically or online) let us know.

If you have knowledge on international Clinical Biochemistry developments share them with us.

If you have industry knowledge we'd love to hear about it.

If you want to review a paper or a book then don't hold back.

Or if you just want to philosophise about Clinical Biochemistry that's good too.



Send your contributions (with CBN in the subject heading) to Martin Healy at healymartinj@gmail.com