The Royal College of Pathologists
Pathology: the science behind the cure

Northern Ireland Symposium 2022

Thursday 26 May 2022

Held via Zoom

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General Information

Thank you for registering to attend the online Northern Ireland Symposium 2022, which will be held via Zoom on Thursday 26 May 2022 at 9.30am.

We look forward to welcoming you at the symposium! We strongly suggest you download Zoom to your computer or laptop to make the most of the meeting, however if this is not possible just simply click on the link provided (please see joining instructions below). To find out more about Zoom and how it works please visit the website.

Meeting information
When joining the Zoom webinar, we ask that you include your full name so that your attendance can be recorded for CPD purposes.
During the meeting all attendee microphones will be muted and participant videos off to minimise distraction and maximise the meeting connectivity. We will be taking questions through the 'Q&A' function. To ask a question open the Q&A window, type your question into the Q&A box. Click Send. As an attendee you can also like (click the thumbs up icon) or comment on other attendee's questions. This helps the host to identify popular questions, especially in a webinar with many attendees. The host/panellists will either reply back to you via the Q&A window or answer your question live at the designated Q&A sessions.

Certificates of attendance
Certificates of attendance will be emailed to all attendees, within a fortnight of the conference. This conference is eligible for 3 CPD credits.

Speaker presentations
Where permission has been given, speaker presentations will be available after the conference.

Feedback
A link to an online feedback form will be emailed to you after the conference, please do complete. All comments are confidential and will be taken into consideration in the development future conferences.

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09:30	**Meeting opens** Dr Gareth McKeeman, Chair, RCPath Northern Ireland Regional Council Professor Sir Michael McBride, Chief Medical Officer, Northern Ireland
09:45	**Is there a place for artificial intelligence in molecular diagnostics?** Dr Stephanie Craig, Lecturer in Precision Medicine, Queen's University Belfast
10:05	**Rapid Exome Sequencing for unwell children** Dr Caoimhe McKenna, Clinical Genetics Registrar, BHSCT
10:25	**Patient Access to Test Results** Anne Mulgrew, ECR team
10:45	**College President update** Professor Mike Osborn, President of the Royal College of Pathologists
11:05	**Break**
11:15	**Clinical Case Study:** **An Atypical Case of Plasmablastic Lymphoma – should we suspect Vedolizumab** Dr Seosamh McCauley, Haematology Team, Belfast Health and Social Care Trust
11:35	**Northern Ireland Cancer Strategy update** Heather Monteverde, Associate Consultant, Department of Health Gay Ireland, Head of Cancer Policy, Department of Health
12:00	**RCPath Flynn Lecture: COVID-19: Laboratory Medicine at the Centre of Government** Professor Ian Young, Consultant Chemical Pathologist & Chief Scientific Advisor
12:40	**Q&A session**
13:00	**Meeting closes** Dr Gareth McKeeman, Chair, RCPath Northern Ireland Regional Council
14:00	**Trainee Forum**: Trainee Forum to be held via Zoom.

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Presenters

Dr Gareth McKeeman
Dr Gareth McKeeman graduated with a BSc (Hon) in Biomedical Science in 1999 before going on to a complete a PhD in 2003 (both at Queen's University Belfast). He then worked as a Research Fellow (School of Medicine, QUB) for 4 years before moving to the NHS in 2007 to start the Clinical Scientist Training Programme. During this he completed an MSc (Clinical Biochemistry with Molecular Biology, University of Surrey), and then FRCPath (Clinical Biochemistry) during Senior and Principal Clinical Scientist posts. He took up his current post as Consultant Clinical Scientist (Dept. Clinical Biochemistry, Belfast Health & Social Care Trust) in 2015, where he has oversight over the Clinical Biochemistry General Automation Labs across 3 hospital sites and is Chair of the Trust POCT committee. He is also currently Chair of the Northern Ireland Regional Council.

Professor Sir Michael McBride
Prof Sir Michael McBride was appointed to the post of Chief Medical Officer for the Department of Health, in September 2006. Prior to joining the department he had been Medical Director at the Royal Group of Hospitals from August 2002.

Prof Sir Michael McBride graduated with Distinction from Queen's University Belfast in 1986 and completed his undergraduate and postgraduate training in Northern Ireland. In 1991 he attained a Research Fellowship at St Mary's Medical School and Imperial College London, where he carried out research into new drug treatments for HIV.

Prof Sir Michael McBride has been a Consultant in the Health Service since 1994 when he was appointed Consultant Physician in HIV medicine at the Royal Group of Hospitals and has more than 10 years health service management experience. He has a longstanding interest in continuing medical education and was Postgraduate Clinical Tutor in the Royal Group of Hospitals between 1996 and 2000 and Director of Education in the Royal Hospitals from 2000.

As Medical Director at the Royal Hospitals, he contributed to strategic change at trust, regional and national level. As the Trust lead for clinical and social care governance, he had responsibilities for all aspects of clinical quality and patient safety.

Prof Sir Michael McBride took up the post of Chief Medical Officer during a time of significant change for Health and Social Care in Northern Ireland with responsibilities for Policy and Strategy in relation to Public Health, Quality and Safety and Research and Development. He also provides strategic advice to Minister and other Government departments on health related matters. He has been closely involved in the development of the new Health and Social Care structures, post Review of Public Administration, including the establishment of the Public Health Agency. Prof Sir Michael McBride currently leads in the work to transform health and social services in Northern Ireland in line with Health and Wellbeing 2026 – Delivering Together.

At the request of the Health Minister Prof Sir Michael McBride took up the post of Chief Executive of Belfast Health and Social Care Trust from December 2014 to February 2017. He combined this role with Chief Medical Officer. As Chief Executive Prof Sir Michael McBride was head of an integrated health and social care Trust which provided hospital-based and social care services to the population of Belfast, as well as most of Northern Ireland's regional specialist services. He had responsibility for key Ministerial priorities, corporate responsibility for the Trust's 20,000 employees, and overseen the Trust's annual budget of almost £1.3bn.

Prof Sir Michael McBride was knighted in Her Majesty's 2021 Birthday Honours for services to public health in Northern Ireland. He was awarded a Professorship in Public Health Practice from Queens University Belfast in 2021 for services to Public Health.

Dr Stephanie Craig
Stephanie is a Lecturer in Precision Medicine at the Patrick G. Johnson Centre for Cancer Research, Queen's University Belfast. She has a breadth of experience in the application and validation of translational cancer research methodologies using molecular pathology techniques and statistics. Her research focuses on predictive biomarker studies and understanding confounding variables that influence the prediction of poor prognosis subgroups in cancer including reproducible study design, choice of molecular test, and assessment criteria using biological and computational methods.

Dr Caoimhe McKenna
Dr Caoimhe McKenna is a Clinical Genetics trainee working in the Northern Ireland Regional Molecular Diagnostics Service. Prior to this, she trained as paediatrician in London and gained membership the Royal College of Paediatrics and Child Health. Dr McKenna has a Masters in Medical Genetics and Community Child Health. She recently completed her MD (Res) at UCL, with a focus on Down Syndrome. Dr McKenna is also a visiting scholar at Queens University, and a Sub Deanery Fellow in Undergraduate Medical Education in the Belfast Health and Social Care Trust.

Anne Mulgrew
Anne is a Senior Project Manager with 40+ years' experience working in Health Care. She is currently working for the Business Service Organisation delivering projects to the health service in Northern Ireland including the implementation of a regional Patient Portal.

Professor Mike Osborn
Professor Michael Osborn studied medicine at Guys & St Thomas Hospitals, London qualifying in 1995. He became a member of the Royal College of Surgeons in 2000 and a Fellow of the Royal College of Pathologists in 2004. Currently he works as a consultant histopathologist for North West London Pathology at Imperial College Healthcare NHS Trust, London where he is clinical lead. His working time is divided between post-mortems, diagnostic gastrointestinal histopathology, bowel cancer screening and teaching. He runs an intercalated BSc "Humanities, Philosophy & Law" at Imperial College, London. During the COVID-19 pandemic he and colleagues at Imperial College published work relating to findings in fatal COVID-19 infection. He was elected President of the Royal College of Pathologists (RCPath) in November 2020 having previously been on the RCPath council and having had a variety of college roles including chair of their Cellular Pathology Speciality Advisory Committee and Death Investigation Committee.

Dr Seosamh McCauley
Seosamh McCauley is a graduate of Queens University Belfast and currently a Specialist Registrar in training in Haematology based out of the Belfast City Hospital.

Heather Monteverde
Heather Monteverde is a registered general and sick children's nurse who has worked in cancer services over a long number of years. She has worked as a cancer nurse specialist in HSC, pharma, and the voluntary sector both in NI and across the UK. Heather chaired the Living Well subgroup and from autumn 2020 worked alongside colleagues in the Department of Health to write the cancer strategy.

Gay Ireland

Gay Ireland is by background an internal audit and risk exert and has worked both in the voluntary and public sector for a number of years. Gay has been the Head of cancer Policy and Project Manager for the cancer strategy for the last few years.

Professor Ian Young

Ian Young is Professor of Medicine at Queen's University Belfast, and Deputy Medical Director and Consultant Chemical Pathologist at Belfast Health and Social Care Trust. In addition, he is Chief Scientific Advisor to the Department of Health, Northern Ireland, and Director of Research for Health and Social Care. His main clinical and research interests are in nutrition and lipid metabolism, particularly in relation to cardiovascular disease prevention and management of patients with complex lipid disorders. He is author of over 450 published research papers. He is Past-President of the Association for Clinical Biochemistry and Laboratory Medicine, UK, and a previous Chair of the IFCC Scientific Division and the Joint Committee for Traceability in Laboratory Medicine (JCTLM). He is currently Chair of the UK Government's Scientific Advisory Committee on Nutrition and the International Consortium for the Harmonization of Clinical Laboratory Results (ICHCLR). He is Associate Editor for the number one global ranked Laboratory Medicine journal Clinical Chemistry, and co-editor of the current edition of Tietz Textbook of Laboratory Medicine, the definitive reference book for laboratory medicine and clinical chemistry.

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Abstracts

Is there a place for artificial intelligence in molecular diagnostics?
Dr Stephanie Craig, Lecturer in Precision Medicine, Queen's University Belfast

1. Why should we consider artificial intelligence methodology as a potential alternative to traditional molecular diagnostics?
2. How modernisation of pathology services lends itself to application of artificial intelligence methodology in clinical medicine.
3. How the use of artificial intelligence in medical images could transform traditional cancer histopathology practices in Northern Ireland.

The use of molecular diagnostics to identify cancer subtypes is critical for determining accurate patient outcomes and the best treatment options. Molecular tests to determine these cancer subtypes may be limited by assay sensitivity or specificity to accurately identify patient subgroups using a single test and may require confirmation using secondary or tertiary tests. As pathology services go digital in Northern Ireland could digital assays, developed using artificial intelligence on medical images, provide a meaningful alternative to laboratory-based tests in clinical practice?

Rapid Exome Sequencing for unwell children
Dr Caoimhe McKenna, *Clinical Genetics Registrar, Belfast Health and Social Care Trust*

1. Exome sequencing is an extensive genetic test which allows us to look at more of the DNA, and faster, than would have been possible in the past.
2. Exome sequencing has the power to make accurate, rapid diagnoses which can impact management and reproductive counselling.
3. Clinical genetics is in a phase of transition towards these rapid extensive tests. This new phase requires investment in sequencing technology, management of big data and trained staff.

A significant proportion of children with complex health needs will have an underlying genetic diagnosis. Making a genetic diagnosis can be challenging, and it is influenced by the availability of genetic testing. Traditionally, Clinical Geneticists have had access to a limited number of genetic tests, which are expensive, slow and have a relatively low diagnostic yield. Patients may undergo multiple different genetic tests, spanning years, before a molecular genetic diagnosis is made (if ever). This protracted journey is often referred to as 'the diagnostic odyssey'.

A molecular genetic diagnosis has the potential to significantly impact patient management, open up access to clinical trials, and to inform discussions around prognosis and reproductive recurrence risk. Exome sequencing is a modern advancement in genetic testing which allows us to look at much more of the DNA, and faster, than would have been possible in the past.

This presentation will focus on the changing landscape of genetic testing, the benefits and challenges of introducing exome sequencing in clinical practice, and case examples to illustrate the power of this type of testing in unwell children.

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Patient Access to Test Results
Anne Mulgrew, ECR team

1. What is a Patient Portal?
2. Background to the MyCareRecord patient portal
3. Patient accessing their Test results

MyCareRecord is the patient facing module of the Northern Ireland Electronic Care Record (NIECR) The portal provides patients with access to a subset of their health record including upcoming appointments, a library of documents providing information relating to their diagnosis and access to their laboratory test results.

Clinical Case Study: An Atypical Case of Plasmablastic Lymphoma – should we suspect Vedolizumab
Dr Seosamh McCauley, Haematology Team, Belfast Health and Social Care Trust

1. What is the NEW aspect of this case?

The first documented case of plasmablastic lymphoma, a rare and aggressive lymphoma associated with immunodeficient adults, to occur in a patient after 2 years of Vedolizumab, a monoclonal antibody for the treatment of inflammatory bowel disease.

2. What is the CENTRAL finding of this case?

The molecular mimicry of Vedolizumab target α4β7 integrin, a protein expressed on intestinal homing CD4+ lymphocytes, is also appreciated in HIV infection, as HIV-glycoprotein-120 binds with α4β7 integrin and leads to a loss of gut CD4+ lymphocytes, and the potential to develop plasmablastic lymphoma.

3. What is the SPECIFIC clinical relevance of this case?

Emphasise a potential sequela of Vedolizumab, offer a possible tumour pathogenesis and recommend further investigation to understand its causal pathology and consider its discussion when consenting such therapy.

Plasmablastic lymphoma (PBL) is a rare and aggressive lymphoma associated with immunodeficient adults, classically in the setting of HIV, with a median overall-survival of 6-11 months. We chronicle a novel case of PBL occurring in the context of Vedolizumab for the treatment of inflammatory bowel disease (IBD) in a HIV-seronegative patient. Vedolizumab specifically targets α4β7 integrin and inhibits gut lymphocyte accretion, so reduces inflammation in patients with IBD. A similar phenomenon is characteristic of acute HIV-infection. HIV-glycoprotein-120 binding with α4β7 integrin leads to loss of gut CD4+ lymphocytes and the potential to develop PBL, an AIDS-defining diagnosis. Use of Vedolizumab at diagnosis suggests a synergistic causal effect given the molecular mimicry of its target α4β7 integrin seen also with HIV-infection. This would be the first documented case of PBL occurring in the context of Vedolizumab. We highlight a potential sequela of Vedolizumab and recommend further investigation to understand its causal pathology.

Northern Ireland Cancer Strategy update
Heather Monteverde, Associate Consultant, Department of Health
Gay Ireland, Head of Cancer Policy, Department of Health

1. Co-production
2. Importance of data
3. Whole systems approach

In spring 2019 the Department of Health began the development of a new 10-year Cancer Strategy for NI under the direction of the Chief Nursing Officer, Professor Charlotte McArdle. Strategy development was severely impacted by the Covid-19 pandemic resulting in unavoidable delays.

A Steering Group of key stakeholders including people with lived experience and third sector representatives was supported by seven sub-groups: prevention; diagnosis; treatment; care and support; living well; palliative/end of life and children and young people. All sub-groups considered issues affecting patients across the full age range with particular focus on older people and accessibility as well as children and young people (16 to 24). In addition, the strategy had 3 overarching themes: data, governance, and workforce. Subgroup findings all concurred that there are significant issues to be addressed in these areas.

In the interim and in alignment with the developing strategy a Cancer Recovery plan was developed in spring 2021 which has since been subsumed into the strategy. Pre-consultation with a wide range of key stakeholders was conducted April/May 2021 and the public consultation launched in August. The new 10-year Cancer Strategy 2022-2032 and funding plan was launched in March 2022 by the Health Minister. The strategy consists of 60 actions over 4 themes: preventing cancer, diagnosing, and treating cancer, supporting people to live well and die well and implementing the strategy.

RCPath Flynn Lecture: COVID-19: Laboratory Medicine at the Centre of Government
Professor Ian Young, Consultant Chemical Pathologist & Chief Scientific Advisor

1. Standardization of laboratory testing remains a major challenge both for established and new tests
2. Clear communication of science to politicians, the media and the public has a vital role to play in development of public policy

Laboratory testing for COVID-19 has played a critical role in the development of public policy throughout the epidemic. The laboratory medicine community responded flexibly and at pace to develop novel tests (PCR, antigen and antibody) and to rapidly increase testing capacity, providing vital data which informed both modelling and monitoring of the epidemic. As a consequence, there has never been greater recognition of the importance of laboratory medicine.

Development of laboratory testing at pace highlighted the challenges of ensuring comparability of between method results. Variation in pre-analytical, analytical and post-analytical factors has been widespread and has resulted in significant uncertainty around the reliability of laboratory tests among politicians and the public. This has highlighted the need for increased emphasis on the importance of standardization for new and existing tests, which remains an under-appreciated challenge across laboratory medicine.

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