Modern approaches to diagnostics in the COVID-19 era

Friday 1 October 2021
10.00–14.05 (UK time)

5 CPD points awarded by the Royal College of Pathologists
10 CPD points awarded by Shupyk National Healthcare University of Ukraine

In collaboration with the Royal College of Pathologists, UK. Where international experts in their field, will deliver a range of talks that cover areas such as interpretation of morphology, diagnostic challenges and the immunohistochemical approach to the pathology of any specialty.

Event programme

10.00–10.05am

Welcome and opening on behalf of the University

Addresses from Professor Yuriy Voronenko, Rector of Shupyk National Healthcare University of Ukraine, Professor Olena Dyadyk, Head of Department Pathologic and Topographic Anatomy Department of The Shupyk National Healthcare University of Ukraine, and Professor Mike Osborn, President of the Royal College of Pathologists, UK.

10.05–10.35am

Talk one: Case discussions in gastrointestinal pathology

Dr Deohdar, Professor and Pathologist, Tata Memorial Hospital Mumbai, India, and International Regional Advisor for South East Asia, the Royal College of Pathologists, UK.

10.35–11.05am

Talk two: **Secondary infections in immunosuppressed patients in the COVID- 19 era**

Dr Ranganathan N Iyer MD FRCPath DNB DPB MAMS, Consultant Clinical Microbiology Infections and Infection Control, Gleneagles Global Hospitals and Rainbows Children's Hospitals, India, and Associate Regional Advisor for South East Asia, the Royal College of Pathologists, UK.

11.05–11.25am

Break

11.25–11.55am

Talk three: A review of cases of potential vaccine-induced thrombosis and thrombocytopaenia following vaccination against COVID-19

Dr Daniel Nash, Specialty Registrar in Histopathology, Kings College Hospital London, UK.

11.55–12.30am

Talk four: Multiomics – what do we know and how do we apply?

Professor Jo Martin, National Specialty Advisor for NHS England and Improvement and Immediate Past President of the Royal College of Pathologists, UK.

12.30–13.00pm

Lunch

13.00–13.30pm

Talk five: Persistence of SARS-CoV-2 RNA in post-mortem nasopharyngeal swabs

Dr Mark Howard, Consultant Histopathologist, Cytopathologist and Autopsy Pathologist, Acting Trust Lead Medical Examiner, Kings College London, and Country Advisor for the Ukraine, the Royal College of Pathologists.

13.30–14.00pm

Talk six: Tracing the origins of SARS-CoV-2 using genetic evidence

Dr Peter Forster, Director of Research Institute of Forensic Genetics, Muenster, Germany.

14.00–14.05pm

Closing remarks

From Professor Olesya Hulchiy, Vice-Rector for International Relations and International Students Research and Training, and Professor Olena Dyadyk, Head of the Department of Pathologic and Topographic Anatomy, Shupyk National Healthcare University of Ukraine.

Speaker biographies & abstracts

Professor Yuriy Voronenko, MD

Rector of Shupyk National Healthcare University of Ukraine, member of a number of international public academies: the European Academy of Natural Sciences, the Polish Academy of Medical Sciences and Albert Schweizer International Medical Academy; Merited Scientist and Technologist of Ukraine, laureate of the State Prize of Ukraine in Science and Technology.

Author of more than 550 scientific papers devoted to social issues in medicine, management and leadership development in healthcare, improving educational content and provision of training for nurses, pharmacists, medical doctors and their continuous professional development.

Professor Olena Dyadyk

Professor, MD, Dr. Sc., Head of the Department of Pathologic and Topographic Anatomy, Shupyk National Healthcare University of Ukraine; expert of the Ministry of Health of Ukraine in the field of pathologic anatomy, forensic examination, pediatric pathologic anatomy; member of the clinical expert committee of the Ministry of Health of Ukraine; member of the Central Group of Prompt Response to Adverse Events Following Immunization/Tuberculin Testing; Chair/Coordinator of the Working Group on Implementation and Participation in the European Council of Pathologists (ESP) – ESP-UEMS Progress Test/Boards Examination.

Professor Michael Osborn

Professor Mike Osborn studied medicine at Guy's & St Thomas' Hospitals, London, UK, 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, UK, 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, UK. 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 Specialty Advisory Committee and Death Investigation Committee.

Dr Kedar Deodhar, Pathologist and Professor

Medical Graduation (MBBS), Mumbai University 1989; Post-Graduation in Pathology (MD), Mumbai University 1994; Fellowship in Oncopathology, Tata Memorial Hospital (TMH) for two years; MRCPath 2001; FRCPath 2008. Currently, Professor and Pathologist in the Department of Pathology, TMH, Mumbai. Specialist interest includes gynecologic pathology, gastrointestinal pathology, audits in pathology convenor gynecologic oncology, disease management group, lead for TMH in Section of Cytology and EQAS programme in Cytology NABL (National accreditation body) assessor in Histopathology and Cytopathology (ISO 15189:2012). Dr Deodhar has served on hospital ethics committee for six years and is a post-graduate teacher for the DM Oncopathology degree course at Homi Bhabha National University.

Case discussions in gastrointestinal pathology

Herein we will see a case of anorectal melanoma in a middle-aged male. Morphological pointers, differential diagnoses and relevant immunohistochemistry will be discussed. We will also see the various architectural patterns of melanoma, discuss useful diagnostic tips and highlight examples of other malignancies that mimics malignant melanoma. Furthermore, we will review a case involving graft versus host disease changes in the colonic biopsy from a young male who received

a bone marrow transplant. Colonic biopsy changes mimicking chronic inflammatory bowel disease in a patient who received immune checkpoint inhibitor therapy for head and neck squamous carcinoma will be examined. A literature review related to these new group of drugs will be undertaken.

Dr Ranganathan N Iyer

Dr Ranganathan N Iyer is a postgraduate from the Armed Forces Medical College, Pune, India. After a brief stint as a Lecturer in the Department of Microbiology at the Seth Gordhandas Sunderdas Medical College and King Edward Memorial Hospital, Mumbai, India, he worked as a consultant in Microbiology and Infection Control at the Breach Candy Hospital, Mumbai, India, for over eight years. He has been a senior consultant in Clinical Microbiology, Infections and Infection Control at the Gleneagles Global Hospitals & The Rainbow Hospital for Women and Children for the last 20 years. He is the Chairperson of Infection Control and Prevention at both hospitals to date. Dr Iyer was a postgraduate teacher for the DNB course in Medical Microbiology and his areas of interest are antimicrobial chemotherapy, transplant and paediatric infections, and infection prevention. He has been an assessor for quality processes for both laboratory medicine and hospitals in India. He is an Associate Regional Advisor SE Asia for the Royal College of Pathologists (RCPath), UK, and a country lead advisor for RCPath in India. He has 40 publications in national and international journals and has authored four chapters. He is also the editor for the *Journal of the Academy of Clinical Microbiologists*.

Secondary infections in immunosuppressed patients in the COVID-19 era

Modern diagnostics have embarked on diagnosing infections using various strategies including molecular diagnostics. Diagnostics have come a long way against the background of the COVID-19 pandemic, which has posed a challenge to both the diagnosis and management of many diseases including opportunistic infections all over the world. While conventional culture work does prove effective and meaningful in the diagnosis of many infectious diseases secondary to the primary COVID-19 infection, non-culture methods, particularly those that work faster such as serology and molecular diagnostics, have emerged in the diagnostic armamentaria. RT-PCR, cartridge-based NAAT technology, gene sequencing techniques, and antigen-based and antibody-based serological methods have made a difference to the diagnosis of both initial COVID-19 infection as well as other opportunistic bacterial, fungal and viral infections in patients who may or may not have suffered from COVID-19.

Dr Daniel Nash

Dr Daniel Nash is a Specialty Registrar in Histopathology at King's College Hospital NHS Foundation Trust in London, UK.

A review of cases of potential vaccine-induced thrombosis and thrombocytopaenia following vaccination against COVID-19

Death following cerebral sinus thrombus occurring in the setting of vaccine-induced immune thrombocytopenia and thrombosis is not a common phenomenon. A few clinical cases will be presented alongside relevant literature.

Professor Jo Martin

Professor Jo Martin has been on the Board of Barts Health NHS Trust, been National Clinical Director of Pathology for NHS England from 2013 to 2016, was President of the Royal College of Pathologists from 2017 to 2020, and is now National Specialty Advisor for NHS England and Improvement. Jo's clinical expertise is in the pathology of gastrointestinal motility disorders. Professor of Pathology and Director of the Blizard Institute at Queen Mary University London, UK, with research interests in diagnostics, she is a founder of Biomoti, for cancer drug delivery. She created the education eCPD app and leads the Pathology Portal Digital Training programme.

Multiomics – what do we know and how do we apply?

Rapid advances in technology are affecting all areas of pathology. Over the next few years, we can expect to see even more amazing things come into our world and into our practice. Both the technology that we use and the ways in which we deploy it will change the way we work. We have glimpses of advances that will change the way we assess histological slides, genetic data and the functional genomic data that is coming into our practice. Data science tools are being developed that will allow us to provide personalised reports of therapeutic options for tumours and for microorganisms.

Integrative pathology, with the use of genetic and protein data alongside morphological interpretation, will come into every area of our practice, both benign and malignant. This presentation will highlight some of the new methods that are under development, some of the new

tools becoming available and some of the changes in implementing multiomics that we can expect both in the coming years and the longer term.

Dr Mark Howard

Dr Mark Howard qualified from Guy's, King's and St. Thomas' School of Medicine, London, UK, in 2003 having previously completed a PhD in Molecular Virology at University College Hospital, London, UK. In 2010, he became a Fellow of the Royal College of Pathologists and started his consultant career at the Royal Sussex County Hospital, Brighton, UK. In 2018, he moved to King's College Hospital in London, UK, where he practises in the fields of gastrointestinal pathology, pulmonary pathology, autopsy pathology and cytopathology. He is also the Strategic Clinical Lead for the South London Pathology Joint Venture program, a public/private collaboration between the National Health Service and Synlab UK and Ireland.

From the start of the COVID-19 pandemic in 2020 he led in the area of after death care at King's facilitating the dignified care of deceased patient at the hospital and leading the Mortuary Services Department. He is an expert in the field of testing for SARS-CoV-2 RNA in the mortuary setting and has participated in a number of case reviews involving COVID-19 vaccine-induced thrombosis and thrombocytopaenia.

Persistence of SARS-CoV-2 RNA in post-mortem nasopharyngeal swabs

This talk presents data from the first trial of the use of SARS-CoV-2 RNA PCR in the detection of the virus in patients after death. It shows the efficacy of such testing and its role in assisting in the formulation of the cause of death and in best body management. The response of a busy central London hospital to the effects of the first wave of the COVID-19 pandemic in terms of mortuary service provision will also be described during the talk.

Dr Peter Forster

Dr Peter Forster is Director of Research at the Institute for Forensic Genetics in Muenster, Germany, Director of Fluxus Technology Ltd (Cambridge, UK), and a Former Fellow of the McDonald Institute of Archaeological Research (Archaeogenetics) at the University of Cambridge, UK. He is also a life member of the German National Academy of Sciences. Much of his work is in

anthropological genetics and forensic genetics, but since the COVID-19 outbreak he has published on SARS-CoV-2 evolution, assisted by his formative training at the Heinrich-Pette-Institute for Virology and Immunology at the University of Hamburg, Germany.

Tracing the origins of SARS-CoV-2 using genetic evidence

Our work provides preliminary evidence that first, the animal-human transmission occurred as recently as 2019; second, the pattern of spread of the ancestral coronavirus types argues against a Wuhan origin, whereas more ancestral types were detected in southern China; and third, a single aberrant Asian ancestral type gave rise to the current global variants alpha, beta, gamma and delta.