

Venue: ISIS
23rd August 2007
1515-1630 hr

Symposium 6E: Education and research for pathologists

S6E-1. Appraising the literature: can we believe what we read?

Lee CS

*Editor of Pathology; Senior Anatomical Pathologist, Royal Prince Alfred Hospital, Australia
Clinical Professor and Head, Cancer Pathology Laboratory, Bosch Institute, University of Sydney,
Australia*

Pathology, the journal of the Royal College of Pathologists of Australasia, publishes manuscripts in all the disciplines of pathology such as anatomical pathology, clinical biochemistry, experimental pathology, genetics, immunology, microbiology and molecular pathology. Similar to many journals in pathology, the journal receives manuscripts in these disciplines that can be generally classified as clinical, translational and experimental or basic science papers. In assessing the validity of these manuscripts, the design and conduct of the studies that can lead to bias and variation have to be identified and examined. The sources of bias and variation can be generally categorised as arising from the study population, experimental design, reference standard and verification, interpretation and analysis of results of the study. Obviously, the conclusions and reproducibility of the data or results of any scientific study cannot be sustained if these bias and variations are not addressed.

S6E-2. Molecular diagnosis: strengths and pitfalls

Lakhani SR

Molecular and Cellular Pathology, School of Medicine, The University of Queensland, Mayne Medical School, Herston, Queensland, Australia

Pathology as the study of the mechanisms of disease forms the core curriculum of medical education, and as a discipline, is the fabric that supports the clinical management of patients. Surgeons need guidance as to what and how much to cut and oncologists need guidance as to who to radiate and treat with chemotherapy. This data, derived from the pathological examination to differentiate benign from malignant disease, classify and type the benign and malignant processes and the provision of information about the likely natural history are a powerful and necessary part of good clinical care. Hence patients are increasingly treated after discussion at multi-disciplinary meetings. We are in the midst of a scientific revolution. There is a huge explosion in technology and information derived from these novel methods is filtering into clinical and diagnostic practice. Most pathology laboratories are familiar with the use of immunohistochemistry and the vast amount of useful information that can be gleaned to aid diagnosis, however, even here, little time is spent in truly understanding the method, the scientific basis for the investigation, the appropriate interpretation in the context of the biology of the molecule being tested and the patient's clinical background. Consequently, while IHC has been a major advance and is considered 'routine', it is still misused by many pathologists with inevitable consequences for patient management. There has also been an explosion in our ability to investigate global genomic, transcriptional and proteomic profiles of cells and tissues. Microarray techniques are generating vast amounts of data to inform classification of disease, producing 'signatures' of natural history and suggesting targets for development of novel therapies. While as diagnostic pathologists, we need to develop skills within our own discipline to ensure that we are a competent and useful member of the multidisciplinary team, we also need to understand the scientific methods and assimilate the

huge amount of new information coming from the molecular testing if we are to incorporate it in a meaningful way that will help rather than harm the patients in our care. We are at the cross-roads of being creative or destructive in the use of molecular diagnosis.

S6E-3. Research for surgical pathologists

Kerr KM

Department of Pathology, Aberdeen Royal Infirmary, Aberdeen University School of Medicine, Aberdeen, United Kingdom

Why do it?

Ideally because you want to! The application of an enquiring mind to a specialty based upon the fundamentals of human disease seems an ideal environment in which to generate research. Pathologists engage in research for a number of reasons; interest in the subject, questions needing answers a desire to make a contribution or develop a professional profile or niche. Scholarship has much to commend it. Pertinent though less laudible reasons might be a desire to polish a CV, compete in the job market and of course there is always ‘my boss told me to’! Research can and does improve pathologists’ skills; diagnostic, technical, communication, critical appraisal.

What to do?

Case reports are a good way to learn about gathering information, reviewing the literature, presenting new information in the light of published data and submitting an article for publication. Audits are trendy and a requirement of many pathology training programmes. Why not do one you can publish? Investigative work by pathologists can take many forms, can be simple or exceedingly complex. Simple case-based observational studies are still valuable. Pathologists are hugely privileged to see a wider and potentially more unusual range of diseases than any other specialist group. Material is key to research and pathologists are ideally placed to do it. Skills in histomorphology have been undervalued, though with the upsurge in ‘translational research’, these skills are very much in demand.

How to do it?

Don’t begin alone. Collaborate with others, join an active research group either within or outwith your department. Remember that pathologists have much to offer many research groups. Make sure you secure the time and the resources to do the research. While this may be daunting, especially if your plans are grand, significant work can be done with little more than H&E stains and a microscope.

Just do it...and publish your findings. The knowledge we apply today in our routine diagnostic work was someone’s research work last year.