

## Guest Editorial

### Anatomical pathology

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Anatomical pathologists work with biopsies and resections submitted to laboratories to obtain a diagnosis and prognosis for clinicians' patients. Except where fine needle aspiration biopsy units exist, and where such biopsies are performed by pathologists/cytopathologists, they seldom have contact with patients. Pathologists communicate with registrars (in training units) and with clinicians. They have contact with patients only in academic departments.

The science of pathology was created by Hippocrates (c. 460 - 370 BC). Galen (c. 200 - 129 BC) gave it an anatomical and a physiological basis. From 300 BC until the early 18th century pathological investigations were based on post-mortem findings or gross pathological findings. Gross pathology/post-mortem investigations had a scientific basis and clarified the nature of many diseases.

During the 18th and 19th centuries, Rokitansky, Aschoff and Baillie performed thousands of post-mortems in Europe. They documented their findings and related these with the clinical history, symptoms and signs that the patients exhibited.

Pathology was revolutionised in the 19th century by Rudolph Virchow, a German pathologist. He advocated the use of the microscope in the laboratory for looking at tissue affected by disease. He recognised the cell as the smallest viable unit in the body and created a lasting set of ideas with regard to disease. The microscope allows us to recognise and identify the changes that occur on the cellular level as a result of disease. His work with the light microscope was subsequently followed by the development of the electron microscope

as an instrument to evaluate the cell at the intracellular level.

After the 18th century, in the latter part of the 19th century, Louis Pasteur revolutionised our understanding of disease by recognising that bacteria play a role in infectious diseases.

As the science of chemical pathology progressed, it was used by anatomical pathologists to confirm the cellular changes that occur in the tissues examined for diagnosis. Currently, anatomical pathology also uses the science of immunology and molecular biology.

An anatomical pathologist needs to know gross pathology, general medicine and the more organ-specific conditions – a wide-ranging specialty. Anatomical pathology is not a common specialisation in South Africa. Some anatomical pathologists are in private practice, while others are in academic

practice, delivering a service and training undergraduate and post-graduate students. Sub-specialisations or special interests are possible in some of the larger units. These include dermatopathology in association with dermatologists, lymphomas, breast pathology, renal pathology (paediatric and adult), soft-tissue and bone tumours, gynaecological pathology, liver and gastrointestinal pathology (paediatric and adult), paediatric pathology and cytopathology in association with cytologists and molecular pathology/genetic pathology.

The articles in this edition of *CME* cover only a small spectrum of pathology handled by anatomical pathology laboratories daily. I hope that these articles will open the door to clinicians and help them to understand what the anatomical pathologist does. I trust that the articles will assist them in understanding the spectrum of pathology that they may encounter and help towards a more confident approach to diagnosis.

