

Introduction

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Pre-nineteenth century tissue diagnosis depended on naked eye examination of autopsy material and of a small selection of surgical specimens. The development of the light microscope allowed closer examination of tissue from autopsies and surgical procedures, with visualisation of cells, nuclei and tissue structure. Microscopic diagnosis was initially controversial, partly as a result of the 'Kaiser's cancer' (a histological diagnosis by Virchow of a non-malignant laryngeal lesion, after which Kaiser Friedrich III died of laryngeal malignancy), but the medical and surgical community eventually accepted its value. Tissue analysis is now an integral and routine element of clinical practice. It is heavily dependent on microscopic assessment, although newer methods of tissue analysis will increasingly provide additional information. Assessment of tissue is usually the responsibility of a histopathologist/cellular pathologist (a medically qualified practitioner), who depends on support from technical staff. In the UK, the staff responsible for tissue processing and the production of sections on glass slides are known as biomedical scientists (BMSs). The specialty variably known as Histopathology, Anatomic Pathology or Cellular Pathology encompasses histopathology, cytopathology, autopsy work and molecular tissue diagnosis. Developments and changes in cellular pathology are continuous. The volume of biopsies continues to increase as a result of increasing clinical demands, expectations of greater diagnostic precision, widespread flexible endoscopy and an ageing population with a higher prevalence of cancer and other illnesses. Cancer screening programmes also have an impact as they often depend heavily on cellular pathology. New techniques to refine histological assessment require additional resources. There is an increasing obligation to comply with national or international standards of reporting, e.g. for cancer, and participation by pathologists in multidisciplinary team meetings is now routine rather than occasional. Other developments may reduce activity. Newer, less invasive methods may replace tissue analysis, e.g. human papilloma virus (HPV) testing for cervical pre-neoplastic lesions is replacing cytological assessment. New methods in imaging may reduce the need for tissue analysis. - The location of a modern cellular pathology department is usually within or near a medium-sized or large hospital or in a purpose-built off-site centre. Typically, more than 80% of specimens are from the gastrointestinal tract, gynaecological tract, skin or urological system. In line with clinical services, highly specialised work such as neuropathology takes place in - major regional centres. Consolidation of clinical services may - result in reconfiguration of relevant pathology services and molecular testing facilities. -

To be aware of: The principles of microscopic diagnosis • The features of neoplasia • The importance of clinicopathological correlation • The role of additional techniques, including special stains, • immunohistochemistry and molecular pathology