Histopathology

Lecture 2

History of Pathology

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History of Pathology

The earliest beginnings of pathology are traced to ancient Egypt, Rome, and Greece. Celsus, a Roman, noted the clinical features of what is now known as "inflammation." Galen, another Roman, was an authority on anatomy and other medical subjects; his teaching went unevaluated until 1,300 years later. The first physician known to have made postmortem dissections was the Arabian physician Avenzoar (1091–1161).

In the Renaissance, many artists and scholars advanced the study of anatomy and pathology. Of these Vesalius, the famous anatomist who wrote "De Fabrica Corpora Humani" and Benivieni, a physician who conducted the first autopsy, stand out.

As autopsies, initially prohibited for religious reasons, became more accepted in the late Middle Ages, people learned more about the causes of death. In 1761 Giovanni Battista Morgagni (1682 – 1771) published the first book to locate disease in individual organs.

When the microscope was focused on samples of diseased cells and tissues, pathology came to resemble what it is today. Rudolph Virchow, who was very instrumental in the early development of diagnostic pathology, incorporated his long study of microscopic pathology in his book, "Zellular Pathologie'.
With the light microscope it became possible to correlate the observed signs and symptoms in an individual with cellular changes. In its early stages pathology was very descriptive. Diseases were categorized by how gross and microscopic anatomy was altered.

An imaginary sketch representing Muslim physician Ibn Zuhr.

He was particularly known for his emphasis on a more rational, empiric basis of medicine. His major work, Al-Taysīr fil-Mudāwāt wal-Tadbīr ("Book of Simplification Concerning Therapeutics and Diet"), was translated into Latin and Hebrew and was influential to the progress of surgery. He also improved surgical and medical knowledge by keying out several diseases and their treatments.

In the last half of the 19th century, by using this approach to pathology, coupled with microbiological techniques, it was learned that the major causes of human death were biological agents: protozoa, bacteria, viruses, and fungi.

Infectious diseases took a heavy toll in human lives. Better sanitation and public health measures were instrumental in controlling these diseases, and the introduction of antibiotics and immunization procedures further reduced their risks.

It is now apparent that all diseases reflect changes at the molecular level. As a consequence, studying cells and molecules involved in disease processes has become the cornerstone of modern pathology. Molecular techniques have also been widely introduced in diagnostic practice.

Proteins can be detected in cells and tissues through a technique called immunohistochemistry. A wide variety of sophisticated methods is now available to study the involvement of genes in disease.

Pathology is both an old and very modern medical discipline that is and will remain at the centre of diagnostic medicine.