

Dermatopathology Training in Hong Kong – Direction from History

"Not to know what has been transacted in former times is to be always a child. If no use is made of the labors of past ages, the world must remain always in the infancy of knowledge" - Cicero

Knowledge of history is needed for a full education. If one is to understand the concepts of skin disease as it is presented today, he has to understand their history and how the concepts evolved.

Many ancient associations of ideas resulted from empirical observations. Other opinions were given by divine authorities. During the European Renaissance, individuals were released from the Church dogma and allowed to study the human body and its disease with more freedom. Medical knowledge became known through body dissection. Dermatological diseases being expressed on the body surface and easily studied made dermatology one of the earlier branches of medicine to be studied in detail.

Many early dermatologists began their training as pathologists. These two specialties share a talent for morphologic observation. The emphasis in dermatology and dermatopathology in that era was focused on gross morphology. Description of diseases was primarily clinical. There were no microscopic nor biochemical studies. This approach to skin diseases continued to the 20th century and resulted in a ridiculous bewildering array of dermatological terms.

Progress in understanding most diseases had to await till the development of other techniques and concepts. The expansion of pathology to include microscopic pathology in the 19th century was the beginning of dermatopathology as we know it today.

Magnified images of suitably thin sections differentially stained serve as the basis for modern dermatopathology. Janssen developed the first microscope. Robert Hook of England added coarse and fine adjustments, a stage and illumination systems. In addition, techniques of biopsy and sectioning of the skin had to be perfected. The Swiss anatomist, Wilhelm His produced the first microtome. Later, the German chemical industry developed a variety of aniline dyes for tissue staining. Principles of histological staining further developed with gradual addition of techniques such as fluorescein antibodies labeling and specific staining by monoclonal antibodies for cell constituents using the immunoperoxidase techniques. Recently, molecular biology added new tools to the study of various dermatoses.

Along with these technical developments, concepts in pathology evolved. The most significant was the cellular theory of disease by Virchow, rendering that microscopic study of cells be essential for the understanding of the true nature of disease.

By the late 1950s, dermatologists were confident with the microscopic diagnoses of skin tumours, and dermatologists trained in programs with a dermatopathologist began to recognize the value of dermatopathology in clinical practice.

With all the above developments, systematic study of the pathologic features of various dermatoses became possible. Details about various skin diseases accumulated and were organized into meaningful forms. Fruits of these studies appeared in the mid 19th century. Gustav Simon published the first textbook on the histopathology of the skin in 1840. In 1890, Professor Unna published his classic book on this subject, the *Histopathology of the Disease of the Skin*. Other major texts since included those by Allen, Montgomery, Lever, Pinkus and Mehregan, Ackerman, Farmer, and others. These have furthered our knowledge of skin diseases by collating known information, presenting personal concepts and ideas, and organizing the approach to the study of skin diseases in varying and innovative ways.

Even in the States, physicians who wished to specialize in dermatopathology had to go to training centers in Europe during the early 20th century. In 1937, the American Academy of Dermatology was founded, and dermatopathology became a regular part of the program.

To date, most dermatologists will agree that dermatology simply cannot be practiced well if dermatopathology is not grasped well. A skin biopsy aids the patient by having a histopathologist render a precise diagnosis prior to the clinician's embarking on appropriate management options. Dermatologists and dermatologist trainees with a sound knowledge of dermatopathology will certainly be able to optimize this collaboration to the benefit of the patient. Residents in dermatology should be initiated seriously and vigorously in the discipline of dermatopathology as early in their training as possible.

Dr. W.Y. Lam