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## **Presidential Address-Annual Academic Sessions 2013**

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### **The contribution of the College of Pathologists of Sri Lanka in the evolving role of a pathologist**

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I would like to share my thoughts regarding the evolving role of a pathologist and how the College of Pathologists of Sri Lanka could effectively contribute towards this change.

Tracing the evolution of medicine, it is apparent that the major disciplines of internal medicine and surgery became easily recognized and was established early.

Pathology on the other hand started with the dissection of the human body and the description of gross morphological alterations in various organs in diseased states.

Microscopic examination, thanks to the invention of the microscope by Anton van Leeuwenhoek along with the contributions to cellular pathology by Rudolph Virchow and several other eminent personalities, marked the beginnings of pathology which then got established as a specialty.

Today, the techniques available to pathologists for investigating disease processes have moved beyond morphology into the realm of molecular biology. Thus, pathology as a specialty has evolved rapidly over the past two centuries. This rapidly changing landscape of pathology has resulted in several misconceptions, some of

which I would like to highlight at this point.

Autopsy formed the bedrock of the practice of pathology in the early days leading to many of our clinical colleagues viewing pathologists as a group of inquisitors with the aim of unearthing and publicising mistakes in clinical practice. This misconception amongst both medical and non-medical personnel has led to autopsy losing its value as an important audit and an investigative tool. This should be viewed in the backdrop of declining autopsy rates all over the world.

Secondly, overemphasis by our predecessors on the laboratory aspects of pathology rather than the clinical aspects has resulted in our clinical colleagues forgetting the fact that we are indeed laboratory physicians or a “doctor’s doctor”

Thirdly, the rapid advances in medical technology have introduced a bewildering array of scientific equipment which turns out scientific data that clinicians often find quite confusing. This has often resulted in a lack of appreciation of their clinical relevance and utility.

Fourthly, the presence of numerous biomedical scientists and technical officers in the laboratory has left the pathologist buried

under a mass of equipment and personnel, such that the clinicians often forget the presence of a pathologist or a laboratory physician who is able to help them with a diagnostic problem and management strategies.

This forgetfulness may also be the possible reason for sending request forms without adequate clinical data, a problem faced by pathologists on a daily basis.

As mentioned in one of the standard text books, "Incomplete communication between the clinicians and pathologists may make diagnosis difficult. It would be impossible to render a diagnosis from an inherently puzzling bit of tissue with only a vague knowledge of its source and no concept of the clinical problem as it is as foolhardy to undertake an appendicectomy on the basis of hearsay evidence that the patient has a pain in his belly".

Fifthly, whilst it is not difficult to appreciate the role of the histopathologist, cytopathologist and the haematologist to some extent, as the reports are directly issued by them, it is not so straightforward in the case of chemical pathology. Their role in the planning of relevant investigations, interpretation of results and establishing quality control measures in order to obtain accurate results has to be appreciated and understood.

Unfortunately the role played by different categories of pathologists has not yet been clearly

understood by the clinicians, policy makers and the general public of this country. It is my opinion that these misconceptions need to be laid to rest. Gone are the days when most diagnoses were based solely on the clinical history and examination of the patient. Today, the place of pathology has been firmly established and the specialty over the last century has proved itself beyond doubt.

Let us now briefly consider the present status of our specialty with a glimpse of the future. Pathologists in the present context should function in three broad areas; as diagnosticians, as teachers and as investigators or researchers.

### **The role of the pathologist as a diagnostician**

Today the pathologist is no longer a mere diagnostician. We have a role to play in screening for disease, directing and monitoring therapy and giving the patient and the managing clinician the prognostic information. For example, in breast carcinoma, lymphoma, gastrointestinal stromal tumour and lung carcinoma and many other tumours, targeted therapy is now being used based on the molecular and immunohistochemical findings. The surgical pathologists of today must not only know their own field thoroughly, but must also have a rich background in clinical medicine.

We need to understand the clinicians' needs and respond accordingly. We must be in a position to advise the clinician about the type

of biopsy required, extent of the disease, grade of the disease adequacy of excision and other information including recommended therapies and prognosis of the disease. Physicians expect the pathologists to provide fast and accurate results and useful information in an understandable language. Patients expect to discuss with the pathologists the risk assessment, diagnosis and suitable treatment options for their disease. They want a high quality, accurate report fast with trust and confidence.

### **The role of the pathologist as a teacher**

As teachers, the present day pathologists teach at the bedside, in the laboratory, at the microscope, in the lecture hall, in workshops and in seminars. They instruct medical students, residents in pathology, graduate students in basic science departments and students in related medical disciplines. The modern pathologist is closely affiliated with many branches of medicine. These include all the surgical specialties, internal medicine, dermatology, neurology, diagnostic radiology, gynaecology, forensic pathology and medical oncology. Pathologists play an important role in postgraduate teaching and examination of these subspecialties.

### **The pathologist as a researcher or an investigator**

Pathologists have a unique advantage in biomedical research because of our close ties to clinical medicine, our familiarity with laboratory

technology, and an insight into the significance of tissue changes in disease states.

Pathologists who used their understanding of pathologic processes to make significant contributions to medicine have garnered Nobel prizes. Such Nobel laureate pathologists include Karl Landsteiner, (1930) the discoverer of the A, B, O blood groups, George Whipple, (1934) who, with Minot and Murphy, recognized that the liver contained a substance necessary to prevent pernicious anaemia, Thomas Weller, (1954) who developed methods for the growth of polio virus in tissue culture, Peyton Rous, (1966) the discoverer of tumor-inducing viruses, Baruj Benacerraf, (1980) who identified genetically determined structures on the cell surface that regulate immunological reactions, J. Robin Warren, (2005) who with Barry J. Marshall, recognized that gastritis and gastric cancer are caused by infections with *Helicobacter pylori*, and Haraldzur Hausen (2008) for his discovery that human papilloma viruses cause cervical cancer.

### **The current role of the college to assist in this changing role**

The college of pathologists has a very important role to play in the process of making a competent pathologist.

1. Proper training of future pathologists, developing guidelines for the maintenance and assessment of professional

performance, and the commitment to lifelong learning such as continuous professional development are the important aspects of this process. “To teach well, one must continue to learn” Pathologists should be committed to their own educational growth and must regularly attend and contribute to programs at regional, national, and international meetings, where new basic scientific findings, diagnostic applications, and technology are presented and discussed. Thus, the college must play a major role in organizing such events. Some of the educational activities organized by the college include, a continuous professional development programme consisting of a monthly black box session and a chemical pathology session, guest lectures, work shops and study days to strengthen the weaker areas of knowledge and expertise, annual academic sessions and the international conference in collaboration with the British Division of the International Academy of Pathology held every other year.

2. Another important responsibility of the college is to encourage and facilitate multidisciplinary team meetings in different centers throughout the country.
3. More recently, because of the range and complexity of diagnostic services, a role for the pathologist in explaining tests and their

results directly to the patient has evolved. There are instances where patient requests meetings with the pathologist in order to discuss the report and the prognosis of the disease.

In keeping with these changes, the college is now exploring the possibility of extending its social responsibility further by launching several community based projects on cancer screening and oncogenesis. It is envisaged that these programs will take place initially in work places to educate workers and possibly a second phase leading to the publication of booklets or liaising with the media to carry out awareness programs. The college is currently working on a public awareness programme in collaboration with the Saukyadana Movement to educate the general public on breast cancer and cervical cancer.

4. In a rapidly advancing field such as medicine it is becoming increasingly difficult for pathologists to keep abreast with the current findings and advances in all aspects of pathology. It may therefore be incumbent on the college to find ways and means of solving this dilemma by considering the promotion of some degree of subspecialisation among pathologists, or a more sophisticated referral system within the country. Currently, the college

is working on a scheme of establishing expert panels who would help out and advise on difficult diagnostic problems that the members face, as many pathologists in our country practice in isolation.

5. Currently the role of the college in promoting research include research presentations at the annual academic sessions of the college which have been conducted since 1998. This has become an ideal forum for young pathologists to present their research work. The Journal of Diagnostic Pathology which was initiated in the year 2000 has also encouraged pathologists to submit their original work for publications. This year we plan to publish two issues, the first of which will be made available to all participants of the international conference which begins tomorrow. Apart from these endeavors, the college may need to be more proactive in promoting research among its members. Possible measures include helping its members to obtain research grants both locally and internationally.
6. To achieve the full potential of the facilities and capabilities of the laboratory it is necessary to have the cooperation of all clinicians.

For investigations to be meaningful the specimens should be collected and transported in a proper manner, the most

relevant investigations should be requested, the procedure should be accurate, and finally the results should be interpreted correctly. It is with these objectives in mind that the college undertook the task of drawing up a model and publishing national guidelines and protocols, in reporting under the Health Sector development project in the year 2007.

These guidelines were formulated by the college after several consensus meetings with members of the college and with the input of other clinicians

7. Molecular genetics play an important role in the diagnosis, in the risk assessment, in assessment of prognosis and in the treatment of neoplasms.

To facilitate the knowledge in molecular genetics among members the college organized a series of workshops to update the knowledge on the use of molecular techniques in the diagnosis with the collaboration of the medical genetics unit of the Faculty of Medicine Colombo. The first workshop under this collaboration was held in April this year.

8. Familiarity of the pathologists with issues of quality assurance in laboratory practice, provides expertise in evaluation and auditing of healthcare services for the government and many other organizations.

9. At present, members of the college are involved in helping the Health Ministry officials in developing national health policies through various subcommittees.

For instance, committees for laboratory accreditation in histopathology and chemical pathology, a task force to communicate with the Ministry of Health, an external quality assurance programme for members of the college of pathologists, national continuous professional development programme and national cancer control programme have been formed.

### **Future goals of the college**

1. Use of modern technology has opened several new avenues for practicing pathologists. All these need thorough knowledge in information technology. To keep up with current trends and function effectively all pathologists should have knowledge of basic modular hardware architecture of personal computers and a working knowledge of at least one operating system, one word processing and spreadsheet and database programs.

In addition, histopathologists should be able to handle digital still and video image generation, storage and transmission. Thus it is the responsibility of the college to organize a training programme in

information technology which would be relevant to the field of pathology

2. Establishment of a histopathology slide library- Such a library would facilitate Pathologists, post graduate trainees in pathology and trainees in other fields to have access to relevant areas in histopathology.
3. Preparation of standard reporting formats for common malignancies

Though the guidelines have been prepared, these are not always adhered to in the reporting of common malignancies throughout the country. This may be due to lack of resources in some centers. As the information provided in these reports are vital for proper therapeutic intervention, it is mandatory to prepare standard reporting formats based on national guidelines and to liaise with the ministry of health to organize the printing and distribution of these.

Present day pathologists should be dynamic individuals, interacting with the community, physicians, epidemiologists and others.

At this point I must emphasize that the value of traditional pathology has not diminished. The point I wish to reiterate is that it will no longer be sufficient. It is not about the sophisticated tools, but having the right mindset. We have to possess an open mind to new ideas, technologies, and ways of practice, acknowledge forces driving changes in our practice and engage in change,

be life long learners, develop new skills and leverage core knowledge, interact with patients and other clinicians, venture beyond the tissue on the slide, expand value by influencing prognosis and treatment and most importantly be a part of the treatment team as the ultimate goal is the safety and well being of the patient.

In conclusion, pathology has evolved rapidly and in the process offered a medium for the scientific study of disease, becoming the bridge that spans the growing gulf between the fashionable art of the practice of medicine and surgery and the rapidly advancing basic sciences. It is in the interest of pathologists to adapt to these changes as rapidly as possible. Otherwise, pathology will be rapidly taken over by other specialties losing its identity. Many medical schools the world over are switching to problem-

based learning, further threatening the role of pathologists in the field of medical education. It is up to the pathologists to evolve strategies for scholarly activities to maintain our unique position as pathologists rather than submerging in the sea of clinicians and basic scientists.

I leave you with the words of American philosopher Eric Hoffer,

*"In a time of drastic change, it is the learners who inherit the future. The learned find themselves equipped to live in a world which no longer exists."*

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