

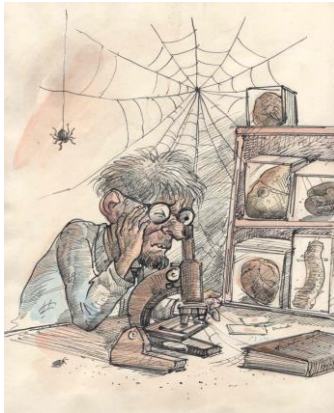
**PRESIDENTIAL ADDRESS 2006****THE CHANGING FACE OF PATHOLOGY**

The discipline of 'pathology' as it is known today, derived its name from the two words 'study' which means '*logos*' in Latin and of 'suffering' which means '*pathos*'. This study of suffering has been a very important branch of Medicine from ancient days. In the days gone by, the pathologist was basically considered to have the last word in medicine as he was called upon to render the final diagnosis especially after death. This was specially so when the cause of death was unknown and when a specific treatment or management did not work resulting in death. In short the pathologist's main job was to submit the final verdict after a post mortem examination.

In an ancient painting depicting death and post mortems, death has come back to haunt the doctor. It points an accusatory finger at the doctor and his assistants to remind them of what has not been done correctly. What it implies is how a meticulously performed post mortem by a pathologist could unravel the mistakes in treatment and management which caused the death of the patient.

However, we all know how the numbers of post mortems have dwindled in the recent past, almost all over the world. We also know that this is primarily due to improvement in clinical diagnosis linked with advancements that have been made in the field of imaging. Secondly, issues related to organ retention and litigation has also made a significant contribution to these dwindling numbers. In Sri Lanka too, we are currently experiencing a similar down ward trend in the number of post mortems that we are asked to perform.

Thus the emphasis and the image of the pathologist has gradually shifted from a person involved with death, to that of a static diagnostician over the years. However there are still instances as highlighted in this cartoon, where pathologists are primarily considered as a species of doctors who get primarily involved in post mortem examinations.



The visual image that most medical and non medical fraternity including medical students have of a pathologist is that of a person confined to a room, glued to his seat in front a microscope. It is true that pathologists of a former era who were involved with tissue diagnosis were basically bound to their room and to the microscope. What was expected from the pathologist during this era was basically to diagnose the pathological process.

**Pathologist of a Former era....**



**Clinicians are from Mars, Pathologists are from Venus...**

A huge communication gap existed between the clinicians and the pathologists as if the clinician was from Mars and the pathologist from Venus. However during the last few decades the role of the pathologist as perceived by the medical and non medical fraternity has drastically changed. The move has been from a person providing the final

diagnosis towards a person influencing major therapeutic decisions, by way of rendering additional information. Nowadays tissue pathologists are expected not only to diagnose malignancies but to comment on adequacy of excision, other pathological features linked with prognosis and stage the tumour based on pathological features. The pathologist may also have a word regarding the best treatment option for the patient.

These new generations of Pathologists are no longer room bound and glued to the seat in front of their microscope. In most countries including Sri Lanka the pathologists have branched off and handle only one specialized area of tissue, blood or chemical pathology. Within the specialized area of tissue pathology they have again sub specialized in to areas like gastrointestinal pathology or breast pathology. New generation pathologists also venture out of their room to interact with their physician and surgeon colleagues as well as with patients. They now form part of the multi disciplinary clinical team looking after patient interests and influence decisions regarding further management. Multi-disciplinary clinical meetings and clinico-pathological meetings have also become part of a pathologist's routine practice. This is also true of haematologists and chemical pathologists that form the pathology fraternity. Pathologists now venture in to the operating room and assist their surgical colleague by way of providing rapid diagnosis and information regarding adequacy of surgical margins. However in our set up we are yet to get actively involved in operation room activities. Due to improved communication and interactions between the pathologists and their clinical colleagues, the concept of these two groups coming from two planets such as Mars and Venus and not being able to understand each other due to barriers in communication is now gradually changing. The pathologists and their colleagues can now be considered as cohabiting on the planet earth understanding the same language. The clinicians and pathologists both play equally important roles as far as management of the patient is concerned. Prof Sir James Underwood, an eminent pathologist from the United Kingdom once commented that *'the time is now ripe for the pathologist also to be considered as a clinician involved in patient care, and be called a clinician!'*.

Additionally, this day and age where medical malpractice suits have also entered in to the court rooms worldwide including Sri Lanka, the pathologist can also be the ace in the hole for a malpractice defense attorney, and the secret weapon of the plaintiff's attorney.

The fate and the future of pathology are now in the hands of our current and future medical undergraduates. Pathologists in academia as well those service bound pathologists have always natured and taught the discipline of pathology to medical undergraduates as well as to postgraduates. The pivotal role a sound knowledge in pathology plays in understanding disease processes was a universally accepted concept. We also know that Pathology forms the basis of teaching in disciplines such as Medicine, Surgery, Gynaecology & Obstetrics and Paediatrics. In short, in the days gone by, an understanding of pathology was considered an essential prerequisite to understanding medicine. This was amply highlighted by Rudolf Virchow - the eminent 19th century pathologist who is considered the founder of modern pathology.

Thus Virchow documented,

*'Through the application of its doctrines ... pathology helps to deepen biological knowledge, and to light up still further that region of the unknown which still envelops the intimate structure of living matter'.*

Therefore the medical undergraduates of yesteryears were given a sound basic knowledge of pathology by way of lectures combined with tutorials to enhance knowledge. They were exposed to disease entities that they were going to see as future doctors by using mounted and preserved specimens of organs and tissues from museum collections. They were taught pathology while performing post mortems and were also given an opportunity to get a microscopic view of disease entities at microscope based practical classes. As part of evolution of medical curricula which occurred on a global scale, we too have reformed our medical curricula in Sri Lanka. With these curriculum reforms, pathology has partially lost the strong individual identity that it had as a subject in the undergraduate medical curriculum. The current trend which is described and accepted as being more educationally sound is to teach different types of disciplines integrated with in a frame work of body based systems. Therefore in new medical curricula, tutorials are replaced by problem based learning sessions and some of the lectures by small group discussions. Practical classes using glass slides have been done away with and replaced by fixed learning modules. Teaching pathology using museum specimens will also be gradually replaced in a virtual learning environment in the future.

The oldest medical faculty in the country which has a history of 135 years changed its curriculum first in 1995. The other medical faculties in Peradeniya, Kelaniya, Galle and Sri Jayewardenepura have also either changed recently or are in the process of changing their curricula, having learnt from some of the short comings observed in the Colombo curriculum.

It is true that medical curricula over the previous half century placed too much emphasis on basic sciences at the expense of social, community, and behavioral aspects of medicine.

However, as often happens when changes are made, one wonders whether the pendulum has now swung too far the opposite way, to the detriment of pathology.

As Sir John Lilleyman, past President of the Royal College of Pathologists in the United Kingdom, recently observed,

*'Current students are taught everything about grieving, but little about the causes of death'.*

Eleven years down the line since the Colombo medical faculty changed its curriculum we still do not have any concrete data to support this concept except our own observations as both undergraduate medical teachers and postgraduate trainers. However *'there comes a point where faith and conviction are more important than hard data'* as was mentioned by Prof Margery Davis, a specialist in medical education from University of Dundee who visited us recently, quoting an associate Dean of Harvard Medical School.

A few of interesting articles like this addressing this issue have started appearing in the medical literature. *Tissue Pathology in undergraduate medical education: atrophy or evolution?* – a recent editorial in the Medical Journal of Australia – by Prof David Weedon.

With the current trend of outcome-based medical education, it is expected that most medical undergraduates who qualify will move in to hospital based patient centered medical practice or in to community based practice. Less consideration is given to medical graduates, who although in lesser numbers will still move in to other disciplines like pathology and microbiology. Anecdotal global evidence suggests that recruitment of medical graduates into a specialist discipline depends on a number of factors including the exposure to that particular discipline in the medical course, exposure during the 1st and 2nd postgraduate years, and exposure to role models in the particular field. Over the past half century, we have not been short of people of stature in the field of Pathology in Sri Lanka. However with inadequate staffing levels in academic departments of pathology, affecting the role model concept, together with a lack of a separate identity as a discipline helping to understand the basis of all disease processes, there is a high likelihood that future recruitment of Sri Lankan graduates into pathology will be difficult, making pathologists an endangered species in our country. It is time that we start taking notice of this problem. The Ministry of Health in Sri Lanka is currently aware of this problem and has recently identified Pathology as a priority field among Psychiatry, Radiology and Forensic medicine for post graduate training in our country in the next few years. If one looks at the current statistics of distribution of pathologists in the country it is clear that there is a pressing need to train more pathologists in Sri Lanka to cover all the peripheral areas. Additionally training those who opt for pathology will also be a Herculean task considering their level of undergraduate subject knowledge. In Sri Lanka postgraduate trainees from other fields such as Surgery, Gynaecology and Obstetrics, Ophthalmology, Dentistry, Forensic medicine and Clinical oncology will also have to enhance their knowledge in pathology after they enter their respective programmes of post graduate training. Many of the current post graduate trainees in

these fields are already aware of their inadequate knowledge in pathology going by the overwhelming response that we received for a post graduate course in general pathology that the college organized in the recent past.

What can be done to reverse this anticipated decline in pathology? To keep the field of pathology alive we have a responsibility to ensure that at least the core curriculum of pathology is taught to the medical undergraduates. How can we do this and also make the new medical students identify pathology as a discipline that forms the basis for clinical diagnosis of diseases with in an integrated curriculum?

Some medical schools have addressed this problem by including pathology in all relevant problem based learning case scenarios. This inclusion is ensured by pathology representatives in module planning and review committees. They have also introduced Special study modules (SSMs) to allow students to observe the practice of pathology including surgical and post mortem work or to carry out a detailed study and write a dissertation. Clinicopathological (CPC) teaching meetings are regularly held, with discussion of case examples, with non pathology and pathology clinicians as well as the students all contributing to the discussion. It is also ensured that the assessments include the input of appropriate pathology content, integrated with other subjects. Finally a pathology teaching website is provided to students, containing images, notes, self-assessment questions, handouts, timetables and other relevant information.

I feel that the college also has a role to play to raise the profile of pathology not only among medical undergraduates but also among pre-university students and among the general community as well. In Australia the Royal College of Pathologists have introduced a "Pathology Week" which involved laboratory tours for secondary-school students, meetings with medical students in universities, and a pathology dinner bringing together pathologists and leaders in the business community. Part of the purpose of this Week has been to raise the profile of pathology in the wider community: Educational material is also provided for members of the public and for students contemplating a career in pathology. In Sri Lanka too I think the time is now ripe to improve the profile and the image of pathology among the medical fraternity and general public. This will be especially applicable to our country where only a handful of people know who a pathologist is and what he or she does, despite millions of pathology tests being performed each year all over the country.

However it is still uncertain whether all these measures will enhance medical graduates from choosing a career in pathology. The time is now ripe for us to be vigilant and to monitor recruitment patterns and training of new medical graduates in pathology who have tasted the new medical curricula. In addition to enhancing the image of pathology to improve recruitment to the field, it may also become necessary to revise the pathology post graduate course to include a foundation year to improve the basic subject knowledge in pathology among new recruits to the training programme.

Before I conclude, I want to direct your attention to another area regarding which I have very strong feelings. That is the current trend of dismantling of pathology museums in medical schools with the advent of virtual learning facilities. Luckily this has not happened in medical schools in Sri Lanka as yet. I quote from a timely article which addressed this issue which I recently read,

*'These old collections of museum specimens are still very precious for Medicine, because they show old diseases, now disappeared or very rare, thanks to the therapeutic and diagnostic progresses. Furthermore they are very useful for teaching Pathology to medical students and also to laboratory technicians. The specimens may be also be used for organization of exhibitions, in graduate courses or medical updating courses, and for better popularization of pathology. Some of the diseases shown have a huge environmental or a social impact. For all these reasons we propose the creation of renewed museum structures and a protocol for the restoration of these specimens, which are often damaged owing to time and negligence'.*

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*President, College of Pathologists of Sri Lanka 2006*

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