Concept paper
Pathology Education Transformation

Al-Sultan I.I. [1], S. Jasni[1]

1. Faculty of Veterinary Medicine, University Malaysia Kelantan, Locked Bag 36, Pengkalan Chepa, 16100 Kota Baharu, Kelantan, Malaysia.
imad@umk.edu.my

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ABSTRACT

This paper is concerned with understanding of recent developed thoughts and ideas on teaching and learning pathology. The science of pathology as a disease teaching topic for medical and related science students is one of most important discipline for medical practice in academic teaching. The trend of teaching in these fundamental subjects in the past and current situation is reviewed with the existence of challenges facing the academic teaching and learning process. Reforms and transformation is linked to the style of new framework restructure of teaching process in the medical institutions.

Keywords*: Pathology Teaching, Medical Education, learning, Transformation.*

1. Introduction and background

In the teaching process pathology as a medical topic bridges the gap between the basic sciences and clinical medicine, so a proper understanding of pathological processes is vitally important for medical practice. This tenet is as true as it was in the last century. The main goals of undergraduate pathology teaching have always been to provide a language or framework for the description of disease and to provide students with knowledge of the functional and structural changes in disease so that clinical signs and symptoms can be understood and interpreted (László et al., 2006). Information on pathology teaching prior to 1980s comes solely from the archival material, because the literature contains virtually no publications on teaching and learning in pathology before this time.Pathology is a discipline dealing with the development of diseases, their aetiology and effects on the human and animal body, being closely correlated to prevention, diagnosis and therapy. It is one of the most important medical disciplines, connecting morphological changes to clinical aspects, therefore the study and knowledge of pathology is essential for the understanding of clinical subjects. Pathology courses and teaching in general are facing many challenges today. In the year 1800, when a butcher's son Virchow, had remark the relationship between disease in humans and animals thus he strike the term zoonosis. His interest developed further to find parallel animal and human microbial pathogens discovery by many others. Therefore it can be said that the development of pathology ascribed to microbes. In fact, pathology literally defined as "the study of disease", but nowadays pathology is in danger of deterioration in the reorganization of structures and diagnosis. Most of the trainee pathologists are separated

from the research and experimental training by focusing on the surgical work up and becomes practitioners.

Pathology teaching challenges:

The teaching of pathology in blocks to 'avoid fragmentation' has all but disappeared, as has the traditional practice of teaching general pathology in the first two years and systemic pathology in the clinical years. Instead, pathology teaching is integrated throughout the course. A consequence of this is that in many human medical and vet. Medical schools 'pathology' is no longer a recognised subject. The multidisciplinary approach to teaching and learning is reflected in the modern-day integrated assessments, and the pathology examination, once a tough hurdle, is a thing of the past. In effect, pathology, which is in the past 3decades time was as important as medicine or surgery, is no longer felt to be a core subject, although most medical schools will offer selected study modules in pathology to students who wish to study it in greater depth. It is in teaching methods, however, that perhaps the biggest changes have been seen (Paola, 2010). The emphasis in medical education has switched from teaching to learning, which means that most of the curriculum is now student-centred rather than teacher-centred. Didactic instruction and tutor-led tutorials have given way in varying degree to SDL and PBL, and pathology tutors have been converted to PBL facilitators. Students no longer attend practical classes or look down microscopes, instead computer-assisted teaching has mushroomed and web-based learning is now the norm. Curriculum reform in human and veterinary medical schools worldwide has focused on reduction in contact hours to decompress crowded programs, an increased emphasis on independent learning, development of interpersonal skills, and problem solving (General Medical Council, 2002; Williams and Lau, 2004). Achieving these objectives has inevitably meant that time has been reallocated from traditional areas of emphasis to new educational activities deemed to be more important. In some human medical schools, this has led to curricula that offer diminished opportunity and little encouragement for students to learn the basic medical sciences (Williams and Lau, 2004). Even in less extreme implementations of reform, teaching of microscopic anatomy and pathology has often suffered disproportionately. In fact, Pathology is a problem-solving and independent diagnosis orientated specialty**.** Instructive pathology course should be modified by the student learning centre, Case -based integrated programs, the problem-based learning and self-directed learning should punctuate and modify. Some of the literature suggests that the help of the macroscopic and microscopic levels of education of the disease morphology will assist the students' for better understanding to disease pathogenesis and pathophysiology. It is important to achieve the goal of learning or what called the outcome of learning objectives, both general and clinical pathology are taught to students about body systems and diseases that learn to manage affect the context of increased integration of the curriculum, reducing the contact time, decreased autopsy (human) and necropsy (animal) and academic pathology. Today, the development of the technology helped to education transformation. Base current and relevant digital educational materials to reduce cost, easily accessible, and is more concerned with the production of conventional glass slides, maintenance and harvesting. Virtual teaching materials used in teaching microscopic and macroscopic allow students to

compare and contrast various disease states and thus promote discussion and answer questions (CHMS, 2005). In addition, students can study at their own place, anytime and anywhere with the help of cheap digital materials online. Small Group discussions (Path Talk Session) and other joint activities are essential to facilitate the establishment of a community of learners and peer tutoring to facilitate the development of social and soft skills. So far, we have the advantages of digital documents and better image quality, the notes in the most favourable price and seen helpful in improving concentration and productivity of interactions between teachers and students. The only drawback may be found in digital documents to attribute the availability and reliability of online access. However, this is a problem today. In summary, we can appreciate the positive results of advanced digital education because the benefits far outweigh the disadvantages. The spreading of whole slide imaging or digital slide systems in pathology as an innovative technique seems to be unstoppable. Successful introduction of digital slides in education has played a crucial role to reach this level of acceptance (Bury and Burton, 2005). Practically speaking there is no university institute where digital materials are not built into pathology education.

Conclusion

1. Major reforms in medical education have led to a shift away and transformation from didactic discipline-based teaching with 'factual overload' towards integrated, systems-based education with an emphasis on SDL. Rightly or wrongly, pathology tends to be perceived as a fact-based science, and so has suffered the same fate as many of the basic science subjects in having teaching time drastically cut.

2. There is concern nowadays that pathology is disappearing from undergraduate curricula, especially those that are centred on PBL.

3. Academic pathology is in particular danger of extinction, teaching is a task that requires enthusiasm and time, but one that, if done properly, is greatly rewarding. If pathology teachers of the future can restore the profile of their subject there is hope that newly qualified doctors will understand the mechanisms of disease, use laboratories properly and be stimulated to become pathologists themselves. If not, there is the danger of producing doctors of any kind who cannot explain disease and disease progress to their patients, who abuse laboratories and who have no interest in pursuing pathology as a career, leading to a slow and possibly irreversible decline in pathology as a human medical and veterinary medical profession.

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