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EDITORIAL

Telepathology: a new tool for medical education and recruitment and training of pathologists

Paulo Hilário Nascimento Saldiva

Faculdade de Medicina da Universidade de São Paulo (FMUSP), São Paulo, Brasil.

Pathology remains as one of the most important medical specialties, playing a pivotal role in diagnosis as well as in elucidating the pathogenesis of several diseases. Pathologists usually build a bridge between basic sciences and clinical practice, and are important players in translational biomedical research. Considering the foregoing information, it is clear that pathology is an important piece in medical education, since it provides a unique learning platform that unites molecular, cellular, mechanistic and structural alterations of human diseases. However, despite the multiple possibilities offered by the practice of pathology, Brazil is getting short of pathologists, mostly those interested in academic and investigative pathology. This situation has a trend to worsen, since the number of medical schools in Brazil increased significantly in the last few years. In such a context, it is almost mandatory to devise strategies to increase the efficiency of diagnostic pathology and to attract medical students to the specialty. The causes of the process that made pathology not so attractive to medical students have not been hitherto clarified. Potential agents are the monetary revenue of pathology practice, the emergence of new diagnostic areas, such as molecular biology and radiology, and, possibly, the context in which pathology is taught in medical courses. Indeed, it is quite possible that the courses of pathology are not clearly depicting the possibilities of professional and scientific achievements that pathology offers. At Faculdade de Medicina da Universidade de São Paulo (FMUSP), we decide to face the challenge, by including pathology throughout the six years of medical course. In the first two years, we used autopsies as the basis for education. The idea is to take advantage of a large autopsy service that performs about 15,000 autopsies of non-violent deaths per year. In this service, we installed a state-of-the-art imaging system that includes a 16-channel CT scanner, an ultrasound scanner, a 7-tesla magnetic resonance imaging (7T MRI) machine, 3-D printers, as well as a digital slide scanner. With such a platform, designed for research and teaching, we developed procedures capable of performing post-mortem angiography and spectroscopic metabolomics. In those activities, young medical students are exposed to a clinical discussion, the in-vivo and post-mortem images, followed by the autopsy, which is transmitted in real time from an autopsy room equipped with image facilities. The activity occupies an entire four-hour period and has the presence of basic scientists, clinical and anatomic pathologists, general clinicians and radiologists. More recently, we added professors of medical humanities, since the autopsy table is one of the settings where inequalities of access to medical treatment, driven by social and economic factors, are clearly observed. These activities are conducted on a weekly basis during the first two years of medical school and are highly appreciated by students. In the following week, they are exposed to histological preparations of tissue samples collected during the autopsy procedure. Since there are not many pathology services with the conditions to develop such a type of instruction, we explored the possibility of expanding our classes to other institutions. Indeed, once a month, we have the pleasure of sharing our classes with other medical schools by telepathology, and we have received a lot of inputs from students, clinicians and pathologists from the other schools, reducing our cultural inbreeding and expanding our experience. The autopsy-based learning began in 2002 and evolved until reaching the present form. Although the experience has not been so long, it is possible to identify two important impacts. First, the number of medical students from our institution applying to residence in pathology increased. Second, the autopsy course was ranked among the three disciplines that contributed most to medical education, as expressed by students at the end of the course. Apparently, expressing clearly the potential of pathology during the medical course is one of the strategies that may augment the number of pathologists in our country, and contribute to improve medical education. Thus, it is time to interact and use telepathology to build a network of medical schools, in order to face the challenge of teaching pathology in a scenario where the number of medical schools is increasing. By doing this, medical students will appreciate the beauty of our specialty and more and better pathologists will be graduated in our country.