Editorial

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Medical education of students and residents – a new paradigm?

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Medical education is going through a time of intense changes! One of them, the one regarding diagnosis, is the result of the technological development of medicine. Are we in the situation of "contemplative" medicine or in that of "procedural" medicine? The first one, being called like that because it is based on the direct relationship between patient and doctor, is the more humane and more agreeable one, but is limited to the experience of the clinician. It requires many years of activity, grace and inspiration. The second one is based on invasive or non-invasive diagnosis techniques, the medicine of the 21st century, which is technologized, soul lacking, quantifiable and reproducible, extremely efficient, and operator "independent". So, which way do we go? Is there a clear boundary between the two approaches of medical practice!

It is obvious that modern medicine is going through transformations and as a result the educational system must also change [1,2]. The question is: where is the place of ultrasound in this process? The answer is not easy concerning the large variety of ultrasound equipments, the large variety of clinical applications and last, but not least de operator-dependent character of this method. Nevertheless, the last years have brought technological development and new concepts. The miniaturization of the ultrasound machines, as far as the size of a cell phone, can be included in the category of technological developments (http://www:portableultrasound.com/). This has important implications regarding the possibility to take the equipments (and therefore the diagnosis procedure) anywhere, from the imaging lab to the patient's bed or wherever he might be (even on a spaceship). It has come to that pocket size ultrasound devices are placed near the stethoscope! In the category of new concepts there are applications targeted on a single problem ("point of care") or centered on a syndrome or disease. Last but not least a topographical approach must be considered [3].

Then we come back to the initial question: where is the role of ultrasound? We believe that this role may be discussed by looking at the qualities that define this method: the imaging character of the investigation, the lack of invasivity (it is method easily accepted by the patient), the possibility of being repeated as often as needed and applied both of healthy and diseased subjects (with an obvious educational potential) and the capacity to direct interventional procedures (with a clear message to avoid performing these procedures using the "blind" method and replace it with the guided one). The ultrasonographic exam "lives" by applications: And this is the key! Ultrasonography may be used as an educational procedure for students and young doctors. But how? The interest is to "insinuate" ultrasound in their way of thinking as an investigation instrument. Along with the stethoscope! (some say that instead of the stethoscope …. but that would be a shame!). Ultrasonography will become more and more available for students and the equipments will be cheaper. The consequence? Medical schools will be able to establish ultrasonography labs where real situations may be simulated! Even more, these equipments will be available in clinical settings in order to aid the diagnosis in critical situations and to guide and ease several interventional procedures (www:winfocus.org). Ul-

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trasonography will become an implicit part of the clinical exam [4].

What can we do so that these dreams may become reality? We obviously need to adopt a proactive attitude! Medical schools must perform the necessary curricular changes and introduce ultrasonography in the training of their students and residents [5,6]. Ultrasonography societies must support medical schools to implement this concept. Equipment companies must continue to innovate as far as to adapt the equipment to each procedure and clinical specialty. The scientific events of the practicing physicians should host free courses for students with an exciting ultrasonographic content. This is a concept that was adopted by the Romanian Society of Ultrasonography (you are invited to visit our page http://medevents.ro/conferintasrumb2012/). It is an idea worthy to be adopted by other societies as well.

Ultrasonography can be and must become an educational instrument. In the beginning the students will learn the anatomy, than the function of the different organs and then they will be able to better understand symptoms, signs and syndromes. Consequently they will be able to establish a diagnosis by integrating the ultrasonographic information within the clinical context. And finally they will be capable to diagnose more clearly vital emergencies. Isn't it true that we can talk about implementing ultrasonography in the classical curriculum of the medical students training? If we go down this way young residents will "claim" ultrasound as diagnostic clinical gesture! This is a conclusion that clearly resulted from a study performed by a teaching staff of the University of Medicine and Pharmacy, Cluj Napoca led by dr. Dana Fodor and published in the present number of Medical Ultrasonography [7].

In this way the patient will benefit from a quick medical gesture that is of good quality, is personalized and efficient! Which is exactly what we are looking for!

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