

Editorial**THE ANATOMY OF ANATOMY IN 2013****Petru Matusz***Department of Anatomy, "Victor Babes" University of Medicine and Pharmacy Timisoara, Romania*

Since the time of Hippocrates, human anatomy and dissection has been an important part of medical education, representing the fundamental to all medical practice (Gogalniceanu et al., 2008; Chambers et al., 2009). Unfortunately, nowadays the time and resources allocated to its study continue to diminish everywhere in the world.

The justification provided to explain the reasons for lowering the number of hours allotted to the study of anatomy is based on two main facts:

- clinical medicine field has expanded into new disciplines, specializations and competences, requiring increased study time. An example is the division of internal medicine in cardiology, gastroenterology, nephrology, etc.

- in the field of preclinical medicine there is a real increase of knowledge pertaining to the

disciplines of cellular biology, chemistry, biochemistry, genetics, etc, imposing a raise of their preponderance in the teaching schedule.

These facts are real and have as result the conjugated action of placing a lot of pressure on the anatomic curricula. Nevertheless, an imbalanced medical teaching could lead to paradoxical situations, such as a medical student who:

- has a high knowledge of the chemical composition of the bile and all the digestive enzymes, but without ever seeing the intra- and extra hepatic biliary tree or the mucous membrane of the digestive tract, or

- has a high knowledge of the symptoms of the acute myocardial infarction, all the biochemical and pathological processes occurring before and after the event, but without ever dissecting the coronary arteries and their main branches; and the examples can go on.

The study of anatomy is not just about dissecting tissue or memorizing structures, but it represents an essential experience in "attitude learning" (Fox, 1979). The study of anatomy teaches the student in medicine to learn and to get knowledge of the human body as the field in which he will gain his professional achievements and practice for all his life.

During the last decades, one tried different methods and various ways for students to gain the main necessary anatomical knowledge required for the medical practice in the conditions of drastically lowered time allotted to the gross anatomy.

Integration of anatomy with clinical medicine has been frequently advocated as the solution to this academic crisis (Gogalniceanu et al., 2008). The

problem is the fact that those who practice clinical medicine have lost data from the anatomical notions in favor of clinical information. It is true that the development of new imaging methods and minimally invasive surgical techniques has changed the way in which anatomy needs to be viewed and understood (Gogalniceanu et al., 2008), but this does not settle in the whole the problem of purchasing a sufficient volume of anatomic knowledge for the future doctor. I consider that without a systematic approach of the basic anatomy, acquired at "normal speed", a student will not be able to integrate these truncated "bits and parts" into a whole body image. The situation is alike with a student in geography that knows the details of each individual country of a continent, but without having the necessary knowledge to assembling them to form the map of the respective continent. Taking into account the international reformation underwent by the anatomy curricula, Sugand et al., 2010 consider that the optimal learning content can be categorized into five modalities: (1) dissection / prosection, (2) interactive multimedia, (3) procedural anatomy, (4) surface and clinical anatomy, and (5) imaging. The authors consider also four alternative pedagogical resources which the anatomists can use nowadays, such as plastic models, autopsy, body painting, and virtual simulation.

Whatever angle or level of analysis is considered, the teaching of human anatomy on human cadaver is essential in order to create an optimal modern anatomical curriculum for the medical students. Only the active participation in cadaveric dissection helps to understanding the real three-dimensional relations of the anatomical structures.

Variability of anatomical structures and their actual presence can be noticed by analyzing multiple pieces of anatomical dissection. This cannot ever be replaced by the work on plastic models (all identical, made by a mold that reproduces the average normal anatomy). Medical students exceeded the "playing with lead

soldiers", all identical in shape and weight. They are preparing to work on living people, each having morphological peculiarities. Studying anatomy by dissection, the future doctors need to understand that every human body is unique, but made according to precise biological principles. The prosection and the plastination models can complement but not replace dissection. Also, the interactive multimedia anatomical packages can help reinforce systematic anatomical knowledge, but cannot replace dissection itself. Surface and clinical anatomy and also the medical imaging promotes the understanding of relationship between different body organs, favors understanding and acquiring of anatomical information, but does not replace the study of anatomy by dissecting human cadavers.

In my opinion, all alternative pedagogical resources (well analyzed and exemplified by Sugand et al., 2010) should be just additional pedagogical resources. To these four categories, plastic models, autopsy, body painting and virtual simulation, is necessary to add the study of plastinated slices and corrosion casts, mainly to understand the three-dimensional relationships of vascular and ductal elements inside the parenchymal organs.

References

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