

Physiologist views osteopathic medicine from different angle

To the Editor:

With the 100th anniversary being celebrated this year of both the Kirksville College of Osteopathic Medicine (KCOM) and the osteopathic medical profession, I thought it might be interesting for the osteopathic medical students and clinical and basic sciences faculty alike to hear one physiologist's current view of osteopathic medicine.

After teaching physiology to osteopathic medical students for the past 5 years, I get the impression that the students believe that the basic science faculty treats osteopathic medicine, with respect to osteopathic manipulation, with a great deal of cynicism and disbelief. I think this perception is not entirely true. I will concede that, by nature, those of us in the basic sciences tend to be somewhat skeptical in that we believe the scientific method demands that a hypothesis be tested and shown to be tenable before being generally accepted.

As for me, my initial interpretation of osteopathic medicine was, in part, based on ignorance as well as scientific inquisitiveness. Let me give you a brief history:

I grew up in Connecticut and went to undergraduate school in upstate New York without ever having heard of a DO or osteopathic medicine. The area was replete with chiropractors but few, if any, DOs at that time. In 1975, I attended graduate school in

Philadelphia to obtain my PhD degree. Philadelphia is unique in that it is home to the Philadelphia College of Osteopathic Medicine (PCOM), Hahnemann Medical School (named after Dr Samuel Hahnemann, the founder of homeopathy), a podiatry school, and four other "allopathic" medical schools. (Interestingly, Dr Hahnemann coined the term "allopathy" as "osteopathy" did not yet exist.)

My first exposure to osteopathic medicine was by way of a sporting event. During my 4 years in Philadelphia, I played rugby for the Temple Medical School team. We played PCOM three or four times. I can remember during the first game against PCOM, one of our players scored a long try (similar to a touchdown in football) and came running back up the field with his fists waving over his head, shouting, "OK, let's show them who the *real* doctors are!" Many on the team laughed, but I didn't have a clue about what was so funny. I just assumed that "osteopaths" (a term I now avoid using) were exclusively "bone doctors." I think I may have known at that time that manipulation was part of a DO's training, but I can't recall definitively. I left Philadelphia for Vermont without ever knowing anything about osteopathic medicine and never once heard the word "homeopathy" (maybe because they receive MD degrees).

I didn't hear about osteopathic medicine again until I began looking for a job in 1987. I inter-

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viewed at the West Virginia College of Osteopathic Medicine and here at KCOM. My experience with the two interviews and finally accepting the position here at KCOM had allowed me to reformulate my opinion that osteopathic doctors are physicians, some of whom use manipulation; DOs have a separate osteopathic manipulative medicine (OMM) department, and teach the "mysterious" osteopathic theory and methods (OTM) class. I still didn't really understand where DOs were coming from, but at least I was beginning to get an idea. Recently, things became much clearer.

Every year in our course evaluation of physiology, at least one or two students comment that we do not teach enough osteopathic medical physiology. They note that our course would be fine in an allopathic medical school but not ideal for KCOM. Every year the physiology faculty have discussed these comments and expressed concern that we didn't know what "osteopathic" philosophy was.

This confusion is clarified on Jan 28, 1992. On that day, the KCOM faculty had the opportunity to listen to Michael L. Kuchera, DO, chairman of the OMM department, elegantly explain the osteopathic medical philosophy.

"It is unfair to call us 'MDs who manipulate,' but we DOs (particularly [those of us] in OMM) use OTM as an approach for the diagnosis and osteopathic manipulative treatment (OMT) of clinical problems."

With further discussion and clarification, I could finally, for the first time, truly appreciate the dif-

ference in the way that MDs and DOs (those who use OTM) approach clinical medicine.

Dr Kuchera stated the four tenets on which the osteopathic medical philosophy is based. He carefully noted that although these tenets are accepted by others, osteopathic physicians use only these tenets to build their "affective behavior." The tenets, as explained by Dr Kuchera, are:

- The body is a unit made up of many parts. The body's health as a whole depends on the health of each unit.
- The body has self-healing (homeostatic) mechanisms.
- There exists a structure-function interrelationship.
- The osteopathic approach to therapy must consider all three of these aforementioned tenets.

I conclude that the osteopathic approach to clinical diagnosis considers all three and, therapeutically, the DO who uses OMT to alter or affect the structure-function interrelationship, thereby promoting homeostatic mechanisms and the overall health of the patient (treating the "whole person"). No problem. Even the most ardent skeptic must admire an approach that can be both effective and non-invasive in the sense that one doesn't need fabricated pharmaceutical agents or surgery to treat some clinical problems and to promote health.

The problem is from *where* did the four tenets come and *how* can physiology be made "osteopathic"? Although the fourth tenet can be considered an "original" osteopathic idea, the other three tenets cannot be considered exclusive osteo-

pathic medical philosophic concepts. As a trained physiologist, I had been familiar with the first three tenets and believed in them long before I knew osteopathic medicine existed. As Dr Kuchera alluded, the concept that the body is a unit dates back to at least the Greek physician Hippocrates. Structure-function relationships have always been a basis for physiologic research since the very beginning. For example, an early description of the structure-function relationship of the cardiac valves has been credited to Philistion of Locroi in the 4th Century BC. He described how the valve leaflets were built with great precision and how they directed or prevented the flow of injected air or water. At all levels, structure-function is a basic premise in the approach to physiology.

Homeostasis, a term that Dr Kuchera used in his explanation, is embodied in the second tenet: The body has self-healing mechanisms. Actually, American physiologist Walter B. Cannon, MD, coined the word "homeostasis" in his book, *The Wisdom of the Body* (WW Norton & Co, New York, 1932). His thoughts were based on work done by the famous 19th Century physiologist Claude Bernard, MD. Dr Bernard wrote of the body's incredible ability to maintain a constant *milieu interieur* (internal milieu) under enormously varying conditions. Although Dr Bernard and A. T. Still were contemporaries, whether they knew one another I cannot say. I can say, however, that the concepts of homeostasis and internal milieu are ingrained in every student's mind during the first medical physiology class at

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Temple University Medical School.

After hearing Dr Kuchera's informative explanation, coupled with my knowledge gained from my background steeped in physiology, I can now formulate a new opinion of the osteopathic physician. The osteopathic physician is not an MD who manipulates. He or she is more like a physiologist who uses manipulation in the approach to clinical medicine.

I would also submit to students that our course could not be more "osteopathic." The tenets of physiology speak for themselves. With these tenets, I can support the osteopathic medical philosophy and mission. Many people, including myself and Dr Kuchera, would like to see better scientific documentation of the practices and hypotheses used in manipulative medicine. The osteopathic medical profession has already been established as a service organization. I believe that the American Osteopathic Association's primary mission should be to encourage and support research by osteopathic medical students and physicians in a quest to establish the profession as one of science and inquiry. Some steps have been taken in this direction, but they are slow to take effect. Indeed, the survival of the osteopathic medical profession as a distinct entity may depend on achieving these scientific goals.

To those students who have already taken physiology as well as those who are about to do so, I offer this statement as food for thought:

If we break up a living organism by isolating its different parts, it is only

for the sake of ease in analysis and by no means in order to conceive of them separately. Indeed, when we wish to ascribe to a physiological quality its value and true significance, we must always refer it to this whole and draw our final conclusions only in relation to its effects in the whole.—Claude Bernard, 1865. (An Introduction to the Study of Experimental Medicine, Henry Copley Green [trans] New York, Dover Publications, 1957.)

PHILIP B. HULTGREEN, PHD
Assistant Professor of
Physiology
Kirksville College of Osteopathic
Medicine
Kirksville, Mo

Serologic testing only part of Lyme diagnosis

To the Editor:

The June 1992 issue of the *JAOA* is replete with articles of interest to the clinician involved with rheumatic disease. In particular, Dr Hadi Hedayati's contribution, "Lyme disease," (*JAOA* 1992;92:755-765) provides an accurate, comprehensive, and practical review of this complex disease. One comment regarding serologic testing, however, requires clarification.

Dr Hedayati states that the Western blot (immunoblot) method of detecting spirochete antibodies in early Lyme disease "...may be more sensitive than ELISA [enzyme-linked immunosorbent assay]...." Although it is true that immunoblotting techniques can show an

increased frequency of positive tests in both acute and convalescent sera,¹ readers should be careful not to interpret this statement as a reason to implement the immunoblot as a test for routine serodiagnosis. With the recent availability of immunoblotting by commercial laboratories, we frequently observe the misuse of the Western blot for evaluation of seronegative Lyme disease, as tested using ELISA.

It is important to recognize that unlike the aforementioned immunoblot testing,¹ which detects early immune response against the 41-kd flagellar antigen of the spirochete, commercially available tests are often designed to detect outer surface proteins unique to *Borrelia burgdorferi*. These antibodies to OspA or OspB may not appear until months after acute infection. As such, a serum may test positive by ELISA but test negative or equivocal by Western blot.²

As Dr Hedayati points out, the most appropriate use of the immunoblot test in Lyme disease is to confirm a seropositive result. In this regard, use of the immunoblot is analogous to the serodiagnosis of the human immunodeficiency virus. For practical use, a Western blot is most helpful when the clinical suspicion for Lyme disease is low and multiple ELISA test results are positive.

Finally, it should be reemphasized that the predictive accuracy of any serologic test is totally dependent on the pretest probability of the disease being present. Subsequently, serologic testing for Lyme disease requires accurate

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