To Sleep or Not to Sleep

Yesterday, I reviewed an abdominal computed tomography prior to a transjugular liver biopsy. The left lobe, or whatever was located in the expected anatomic position of the left lobe, was clearly abnormal. I wasn't sure if it was a hematoma, an ischemic left lateral segment, or something else. Naively, I thought the history may provide the answer. Wrong. The clinical history was "LT." I couldn't figure this one out despite becoming accustomed to these types of histories in my hospital's new computerized provider order entry system. Physicians now are required to type in ~100 bits of random information anytime a test is ordered. On our new radiology requisition forms, this information is displayed like an employment contract—dense fine print that may as well be written in Japanese. Scratch that—actually, *all* of the information *except* for the patient's home phone number and address, which are in large bold print and capitalized (to virtually ensure HIPAA violations).

I've noticed that figuring out why the test was ordered is usually more difficult than interpreting the study without clinical information. To date, this system hasn't exactly been wildly successful, at least in my eyes. Limited clinical histories are not new to our field but we're now reaching all time lows. I'm sure the computer team who designed the system knew about this problem and figured that they had it solved because there is a "hard stop" on the clinical history field, forcing people to enter information into that line. The end result supports the natural law, "design an idiot-proof system and nature will create a better idiot." Because something (anything) has to be on this line, we now get histories that have two words or sometimes nonsensical letters . . . or a period or a dash.

My patient was obtunded, which made it difficult for me to obtain a history. Bereft of options, I paged the clinical service to discuss the case. When the resident taking care of the patient called me back, I tried to acquire some part of the absent history and the indication for biopsy. She replied that she had absolutely no idea; she was "cross-covering" because the resident on

service was at home sleeping in keeping with the new limits on resident work hours. The attending physician was "in surgery" and unavailable. The cross-covering resident did know the patient had undergone a liver transplantation—ahh "LT"—but she didn't know what type, when or where it was performed, or anything else that may be relevant to the biopsy. She did know the patient's home address and phone number; thank goodness for that. I finally deduced that the liver must be a recent transplant (hence the request for transjugular route—well-healed transplants rarely bleed) and the abnormal "left lobe" may represent hematoma in a segmental transplant. Considering the fact that my deductions are often suspect (and upon examining the patient, found a well-healed scar), we took the shotgun approach and biopsied both the right lobe and the stuff on the left side also. Nice to be an image-guided specialist.

The Accreditation Council for Graduate Medical Education (ACGME) recently cited the Massachusetts General Hospital because a "significant number of its surgeons in training, known as residents, were exceeding hour limits and working seven days straight." (Surgeons working every day? That can't be good for patient care.) Apparently, 5 to 10% of programs were cited last year for this violation. One spokesperson for the Institute of Medicine, the organization that promotes duty hour reform, notes that "hospitals are not safe places and fatigue contributes to a less safe environment." Thus, cutting work hours is a measure to improve patient care and safety in hospitals. To most of the public and many politicians, this appears to be a simple "1 + 1 = 2" argument. No one would argue that a zombie is preferable to a well-rested physician. What none of these people realize is that the choice is probably closer to a tired physician who knows you and your medical history versus one who has never seen you before, with the latter forced to make medical decisions after looking through a stack of loose-leaf sign-out paper written in typical medical scrawl by your well-rested physician, who is now unavailable to answer questions because he or she is

¹Section of Vascular and Interventional Radiology, University of Chicago Medical Center, Chicago, Illinois.

Address for correspondence and reprint requests: Brian Funaki, M.D., Section of Vascular and Interventional Radiology, University of Chicago Medical Center, 5840 S. Maryland Avenue, MC 2026, Chicago, IL 60637.

Peripheral Vascular Disease; Guest Editors, Robert A. Hieb, M.D., and Parag J. Patel, M.D.

Semin Intervent Radiol 2009;26:279–280. Copyright © 2009 by Thieme Medical Publishers, Inc., 333 Seventh Avenue, New York, NY 10001, USA. Tel: +1(212) 584-4662.

DOI 10.1055/s-0029-1242197. ISSN 0739-9529.

home sleeping (or moonlighting in another hospital). Personally, I'd rather have the tired intern. Nonetheless, it seems to me that like anything else we do in medicine, we need to make decisions on the best available data, not someone's well-meaning solution to the current status quo.

The *Journal of the American Medical Association* published a report on the topic, which studied mortality in teaching hospitals from 2000 to 2005.¹ The ACGME work hour reform was instituted in 2003. Logistic regression was used to examine the change in mortality for patients in more versus less teaching-intensive hospitals before (academic years 2000 to 2003) and after (academic years 2003 to 2005), adjusting for patient comorbidities, common time trends, and hospital site. The conclusion? "The ACGME duty hour reform was *not* associated with either significant worsening or improvement in mortality for Medicare patients in the first 2 years after implementation." Study population size was 8,529,595—probably enough to draw statistically significant conclusions. You would think that a study of this size would put the issue to rest (pun intended). Not even close. There is an entire rapidly growing body of literature devoted to this subject.

After reading several of the articles on the subject of sleep, I was getting sleepy myself and discovered that there wasn't a whole lot of science involved in calculating the limit on resident work week hours. Reportedly, it was determined by gestalt by two guys sitting on a porch in New York who more or less figured that 80 hours was reasonable.² Now the Institute of Medicine wants even

stricter regulations including a 5-hour "nap" for residents on overnight shifts. How this could be accomplished is beyond my comprehension. On the other hand, I think I can use this line of thinking to further pursue my idea for ergonomically designed hammocks in the interventional radiology reading room. When I come into the hospital in the middle of the night for an urgent procedure, I'm tired too. In the era of evidence-based medicine, it is comforting to know that the introduction of new drugs or devices faces great scrutiny in terms of efficacy, safety, and cost while a policy change that affects virtually every patient admitted to a teaching hospital in the United States is decided by two guys sitting on a porch in New York.

Like all new regulations, I'm certain that we will adjust to these, irrespective of whether or not they are good for patient care. But I'm very tired now. Maybe in my next contract I can ask for resident hours.

Brian Funaki, M.D.¹
Editor in Chief

REFERENCES

1. Volpp KG, Rosen AK, Rosenbaum PR, et al. Mortality among patients in VA hospitals in the first 2 years following ACGME resident duty hour reform. *JAMA* 2007;298:984-992
2. Bell BM. Resident duty hour reform and mortality in hospitalized patients. *JAMA* 2007;298:2865-2866; author reply 2866-2867