



Recognizing the unusual: The diagnostic epiphany

The discussion of angiotensin-converting enzyme (ACE) inhibitor therapy and visceral angioedema by Korniyenko et al in this issue of the *Journal* (page 297) prompted me to consider the diagnostic epiphany.

This group had a patient with unexplained abdominal pain who ultimately underwent laparotomy, which did not reveal the diagnosis. I can reconstruct the thought processes that led to the decision for surgery, but far more intriguing is what provoked the “aha” moment when the true diagnosis—ACE inhibitor-associated angioedema—finally occurred to someone.

This is a rare complication of a common therapy, perhaps read about but not reasonable to expect all physicians to recall. If that is true, why can't we incorporate technology into our care system to intelligently supplement the individual physician's memory? What would have been the result if a “smart” electronic record had flagged the combination of ACE inhibitor therapy and recurrent abdominal pain and provided a citation on visceral angioedema?

We have all experienced a diagnostic epiphany, the sudden recognition of an arcane or unexpected diagnosis—as on the TV show *House*, but without the sneer or commercials. Some epiphanies result from suddenly seeing theretofore disconnected dots as a recognizable pattern. Some result from sudden recall of “I saw something like this once.” The superb diagnosticians seem to have these experiences more than the rest of us. Their powers of clinical reasoning are not always transparent. Some are based on the gestalt born of perception and experience, others are the result of incredibly compulsive structured analysis. Both require experience, contextual knowledge, and accurate historical information. These components will need to be incorporated into any diagnostic assistive software. But is this possible?

Those who have read my previous commentaries know that I value highly the clinical skills of history-taking and examination. I believe that these fundamental processes should be used to direct laboratory and imaging studies. I also optimistically expect that electronic medical records will evolve to become far more useful than most currently are, ultimately acting as true auxiliary brains, able to remind us of facts that we can't recall (eg, that visceral angioedema is associated with ACE inhibitors). But there will never be a substitute for the artful and compulsive interview that establishes whether our patient is actually taking his or her medication, and whether there is a relationship between when a medication is ingested and when symptoms appear. The quality of the data entered into our electronic medical record (or other auxiliary brains), to then be associated with various informational databases, will always depend on the skill of the listening and examining clinician.

BRIAN F. MANDELL, MD, PhD
Editor-in-Chief

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