Letters from Maine

Keep the CAT in the Bag

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POINT/ COUNTERPOINT

Did the AAP's clinical statement on lipid screening get it right?

Guidelines outline multilevel approach.

Screening and management are unproved.

On a low-lying landscape of inert couch potatoes, my longtime patient Jackson, 10 years old, is a refreshing peak of activity. However, sometimes activity leads to injury, and over the weekend he found himself in the emergency department following some head trauma that led him to be admitted for a minute or 2. He was now fine without any symptoms, but the ED personnel had told him to come to our office in 2 days regardless of how well he was feeling.

I learned from his father that while in the ED, Jackson had undergone a computed axial tomography (CAT, or CT) scan of his head. With mock surprise I asked, “Really? Did they warn you that this procedure involves a pretty hefty radiation dose?” His dad replied, “Actually, the doctor did mention that but it is potentially associated with an increased cancer risk. She was on the fence about ordering the study, but after Jackson vomited she decided to go ahead and have it done.” Heightening my concerns all the more, Dad recalled that Jackson had had another mild concussion 3 years earlier and had also received a CT scan on that ED visit. Of course, the images then and now were not the same, but I have never seen a meaningful positive CT scan in a patient who was awake and conversant. It turns out Jackson’s emesis was a single event in response to a well-meaning but ill-timed attempt to leave no pain untreated. A big slug of acetaminophen syrup wasn’t so neat in his nerved-up stomach.

In a recent paper in the New England Journal of Medicine, the authors point out that the dose of radiation from a CT scan is significantly greater than that from a traditional chest x-ray. For example, an abdominal CT bombards the patient’s stomach with 50 times more radiation than does a standard film (N. Engl. J. Med. 2007;357:2277-84).

Equally alarming was their citation of a survey finding that 75% of radiologists and ED physicians significantly underestimated the radiation dose of a CT scan (Radiology 2004;231:393-8). While the risk of cancer from CT scans is as yet unproven, it is troubling that 91% of these ED physicians did not believe that the scans were associated with an increased lifetime risk of cancer. Until we have all of the answers, ordering CT scans is an area in which it seems physicians should be prudent. Whatever happened to primum non nocere?

In a related discussion among pediatric radiologists, it was suggested that there is consensus that “somewhere around 30% of CT scans that we do are unnecessary” (Pediatr. Radiol. 2002;32:298-300). My observations suggest that this number is a serious underestimate, certainly when one is talking head injuries.

We older adults tend to be goofy most of the time. Children, on the other hand, tend to be far more transparent. By the time they present to us in the office or ED, what you see is what you get. It certainly is wise to have them sit around for an hour or 2 to make sure their mental status and physical exam are stable. But, the old nursery rhyme verse “bumped his head, went to bed, and couldn’t get up in the morning” is a myth. As is the notion that vomiting is a predictor of intracranial injury (J. Pediatr. 2007;150:274-8).

Unfortunately, even a short observation period in an ED is expensive and can add to the chaos of gridlock. Sadly, for physicians who may not be as confident of their physical exam skills as they could be and who feel the hot breath of opportunistic lawyers on the backs of their necks, ordering a CT scan is the path of least anxiety.

We all must reevaluate use of CT scans and to support and educate those among us who are having the most difficulty being prudent in using these often unnecessary higher-dose imaging techniques.

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Once we identify those children at the highest risk, I would like to see the AAP try to be more quantitative about outlining the risks and benefits of therapy, to empower patients to make individualized decisions about treatment.

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