

Editorial

Nonoperative Management of Blunt Abdominal Trauma: Time for a Practice Guideline?

Richard E Burney, MD

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The optimal rate of nontherapeutic laparotomy and the relationship, if any, between that rate (whatever it is) and its associated inversely proportional rate of missed injury are unknown. Most trauma services are willing to accept a low but appreciable rate of "nontherapeutic" laparotomies in order to avoid serious missed injuries. A variety of diagnostic approaches to the patient with blunt abdominal trauma have emerged in an attempt to deal with this issue and, at the same time, address such related issues as timeliness of diagnosis, cost, length of time in the emergency department, availability of operating rooms, and adequacy of monitoring and evaluation after admission.

In this context, it is interesting to read about the results of what at first blush looks like a hare-brained scheme that no card-carrying trauma surgeon in his right mind would admit to, much less carry out. In this issue of *Annals*, the trauma group from Kings County Hospital, Brooklyn, New York, has reported on the results of an approach they have used since 1986 to minimize nontherapeutic laparotomy while avoiding, if possible, missed abdominal injuries. Their protocol calls for diagnostic peritoneal lavage (DPL) as the initial test in all patients with significant blunt abdominal trauma, followed in selected patients by abdominal computed tomography (CT) and, in many cases, interventional radiology if the DPL is positive but the patient is stable. In these stable patients with hemoperitoneum, they found that laparotomy could be avoided in almost all cases. Emergency angiography was carried out in two-thirds of the patients, and among those, 60% had interventional angiographic maneuvers such as embolization for bleeding. This information regarding the utility of interventional angiography in this

population of injured persons with positive or equivocal DPL is new, potentially useful, and unlikely to be duplicated.

Neither I nor they (I think) would recommend this approach as one that should be used more widely. Skilled interventional angiography is simply not available outside of large centers, and the cost of this kind of intervention is substantial. Moreover, the risks of missed injury, complications, and delays in diagnosis and treatment cannot be assessed in such a small series.

I have particular concerns about missed visceral injuries, which occur in 2% to 3% of patients with blunt abdominal trauma. Other, larger series have shown that these injuries can be missed by both DPL and abdominal CT. The number of patients in this series was simply too small to assure us that hollow visceral injuries, when they occur, will be detected in a timely fashion. The missed injuries that were reported in this study were significant in terms of potential morbidity.

This study had other limitations, including its observational nature, unusual setting and population, and lack of data on costs and time spent to complete this complicated protocol. Nevertheless, credit is due the surgical and emergency medical groups from Kings County Hospital for pushing the treatment envelope and offering an alternative path for patients with blunt abdominal trauma and a positive DPL who seem destined to have a negative laparotomy.

To take a broader view, this is the kind of study that is potentially useful as we begin to consider issues in technology and health care delivery, develop practice guidelines, and examine outcomes of care. The diagnosis of blunt abdominal injury has never been easy. Across the country, there is no rigid structure for the diagnosis of blunt abdominal trauma, nor is there ever likely to be. Rather, using a balance of judgment and technology, we will have to deal with an ever-expanding pool of tests and procedures from which to choose and discover what works best in our particular setting, with our patient population and our approach to diagnosis and management. As we do this, we must develop and adhere to protocols and share outcome data as the group at Kings County has done. Unless there are data regarding the outcomes of various approaches and protocols that allow examination of their utility and comparability, informed choices cannot be made. This will require the development of good, systemwide data systems that include both costs and outcomes. Apropos of this, a new source of data regarding trauma outcomes should soon be available through the American College of Surgeons in a new national trauma registry, National TRACS™, which will begin receiving data this year.

One wonders if it is not also time to begin work on "practice guidelines" for trauma management. There is

an accepted guideline for the initial assessment and resuscitation of the injured patient, Advanced Trauma Life Support™, but management variables have been too complex, opinions too conflicting, and data insufficient to create a comparable document addressing definitive diagnosis and management. A systematic, coordinated effort toward guideline development at least for some of the critical issues in postresuscitation trauma care, although difficult, would help to clarify the deficiencies in the information now available and help to define the kinds of questions that should be the focus of clinical investigation as we approach the 21st century.

Richard E Burney, MD
Sections of General Surgery and Emergency Medicine
Department of Surgery
University of Michigan
Ann Arbor