Addition of “Near-Miss” Cases Enhances a Quality Improvement Conference

Michael H. McCafferty, MD; Hiram C. Polk, Jr, MD

Medical error is a prominent public issue today. Surgeons, for many decades, have conducted regular and meaningful reviews of most untoward events, which deserve improvement. “Near-miss” is a useful focus for such a conference, in that it avoids a focus on ultimate personal guilt and minimizes exposure to litigation (ie, a nonevent).

The converging realities of medical error, the demand by the public and purchasing community for greater accountability by health care providers, and the need to incorporate quality improvement education into residency training pose a formidable challenge, in addition to new restrictions on resident duty hours. Reengineering conference time to maximize educational content is an essential component of meeting this challenge and improving patient care and safety. The traditional Morbidity and Mortality Conference has been a genuine learning conference for surgical residents for generations. To use conference time more efficiently, the conference has been altered to reflect educational needs while meeting weekly for 1 hour. All deaths and complications are previewed by a faculty member with the presenting resident. The best teaching cases are selected for formal presentation and in-depth discussion. Emphasis is placed on evaluating complications and deaths in the context of literature experience with similar situations and with the goal of optimizing patient care to minimize future treatment-related complications.

In addition, a “near-miss” case is chosen for presentation and discussion. As noted by Spencer, the near miss provides a free lesson (ie, a picture of a problem that was corrected so as to avoid or limit its consequences). This represents a new area of discussion at the retitled Quality Improvement Conference.

The focus of this report is to review some of these near misses with the goal of trying to improve patient safety via this internal reporting format. Four examples follow. These near-miss cases demonstrate 4 completely different types of problems, all of which are common.

**REPORT OF CASES**

**PATIENT 1**

A middle-aged woman presented to our surgery clinic with a large breast tumor. She was diabetic and had chronic renal failure; her creatinine level was 2.5 mg/dL (221 µmol/L). A computed tomographic scan of her abdomen and chest, with intravenous contrast, was ordered as part of her pretreatment examination. The ordering physician had missed her creatinine value in the outpatient clinic medical record. The technologist in the Radiology Department noted the problem and alerted the ordering physician, and the imaging study was changed to a magnetic resonance imaging scan, which provided the desired anatomical information. A modified radical mastectomy was subsequently performed, without complications.

This demonstrates the potential problem of intravenous contrast-induced renal failure in a patient with preexisting chronic renal dysfunction. From an institutional perspective, it illustrates the need for adequate safeguards to prevent iatrogenic in-
jury resulting from diagnostic tests, when safer alternatives exist in certain situations.

PATIENT 2

A young healthy man was admitted to our emergency surgery service at 4 AM after being involved in an automobile crash while intoxicated from alcohol. His emergency department examination revealed a grade 1 splenic laceration, and he was admitted for observation. The computerized patient list failed to include his admission. The surgical team changed at 7 AM, and the patient was literally lost in the “handoff.” Because he also did not appear on the computerized patient list, he was not seen by a surgeon for nearly 36 hours. His presence in the hospital only became known to the surgical residents when his nurse asked one of them for diet orders. He tolerated a regular diet, had stable hemoglobin and hematocrit levels, and was discharged from the hospital early the next day.

The missed handoff is attributable to the changes in house staff work hours, which have diminished continuity of patient care, coupled with a data entry problem in our hospital’s computerized patient listing. Local solutions to this problem have been implemented to minimize recurrence.

PATIENT 3

An obese middle-aged man with a long history of cigarette smoking sustained fractured ribs from blunt trauma and was treated with an epidural catheter in the intensive care unit (ICU). He was stable and was transferred out of the ICU after postinjury day 2. He was noted to be tachypneic by the surgical residents during regular rounds the following day, although he was otherwise stable, including having an oxygen saturation rate of 92% to 94%. He was returned to the ICU. Despite optimal respiratory care, he tired quickly and required intubation in the ICU several hours later. He eventually recovered, without further difficulties.

This case illustrates the serendipitous timing of rounds and an alert resident who noticed the early signs of respiratory decompensation in a patient at high risk for such an event. The prompt actions taken thereafter averted the possibility of a catastrophic event. In further evaluating this case, the nurse-patient ratio is raised as a potential quality-of-care issue. Successful management of similar cases outside of the ICU demands attentive care by skilled nurses who have appropriate workloads.

PATIENT 4

A healthy middle-aged man was admitted to the emergency surgery service after sustaining chemical burns to his leg, penis, and lower abdomen. On postinjury day 2, he was taken to the operating room with a planned operation of excision and split-thickness skin grafting of the wounds. Despite healthy-appearing tissue at the base of the excised wounds, skin grafting was deferred. The wounds subsequently required 2 additional operative debridements to remove later-appearing residual necrotic tissue before allowing successful split-thickness skin grafting.

This last case addresses the issue of clinical judgment based on knowledge. This man’s chemical burns looked good enough that serious consideration was given to early excision and skin grafting. Understanding the nature of chemical burn injuries led to the decision to delay skin grafting. This decision was validated by the subsequent manifestation of deeper tissue injury requiring further operative debridement before grafting.