Guideline Recommends Optimal Perioperative Management of Geriatric Patients

Doug Brunk

SAN DIEGO — As the number of surgery patients older than 65 continues to grow, clinicians have a resource to help them provide optimal perioperative care to this patient population.

At the American College of Surgeons/National Surgical Quality Improvement Program National Conference, Ronnie A. Rosenthal, MD, discussed highlights from "Optimal Perioperative Management of the Geriatric Patient: Best Practice Guideline from the ACS NSQIP/American Geriatrics Society," which was published earlier this year.

Work on the guideline began in 2013, when a 28-member multidisciplinary panel began to conduct a structured search of Medline to identify systematic reviews, meta-analyses, practice guidelines, and clinical trials on the topic. The panel included experts from ACS, the ACS Geriatric Surgery Task Force, the American Society of Anesthesiologists, the American Geriatrics Society, and the AGS' Geriatrics for Specialists Initiative. The 61-page document is divided into four categories: immediate preoperative period, intraoperative management, postoperative care, and care transitions.

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Working With Patients on Goals

As noted in the guideline, a primary goal of the immediate preoperative period is to discuss with the patient his or her goals and expectations. Patient expectations are influenced by their treatment preferences. In fact, researchers have found that older patients are less likely to want a treatment — even if it results in cure — that may result in severe functional or cognitive impairment. For patients with existing advance directives, organizations representing nurses, anesthesiologists, and surgeons all agree that there must be a reconsideration of these directives prior to surgery. A discussion that includes the new risks of the procedure must be conducted to ensure that the approach to potential life-threatening problems is consistent with the patient's values.

Medication Management

Another recommendation for the preoperative period is to ensure that older patients have shorter fasts, have appropriate prophylactic antibiotics, continue medications with withdrawal potential, and discontinue medications that are not essential. The latter point is based on the Beers Criteria *(J Am Geriatr Soc* 2015;63:2227–46). "You want to discontinue as many inappropriate medications as possible, because one of the main side effects of their use is delirium, and you want to avoid that," said Dr. Rosenthal, professor of surgery at the Yale University, New Haven, CT, and one of the guideline authors.

Anesthesia and Pain Management

Intraoperative management strategies contained in the guideline include establishing an anesthetic approach and a perioperative analgesia pain plan, preventing postoperative nausea and vomiting, assessing patient safety in the operating room, preventing predictable complications, and optimizing fluid management. Physiologic effects of anesthetic agents include changes in systemic vascular resistance, cardiac preload, baroreceptor responses, lung mechanics, oxygen diffusion, neurotransmitter function, and end-organ blood flow, among others. "These physiologic changes of aging have significant clinical implications," Dr. Rosenthal noted. "These are variable among individuals and variable among organ systems, and it's important that we pay attention to that. Because of this variability, there is insufficient evidence to recommend a single 'best' anesthetic plan for all older adults."

The guideline recommends that each patient have an individualized pain plan that consists of a directed pain history and physical exam and is appropriately titrated for increased sensitivity. "It should include a prophylactic bowel regimen for anybody who's on an opioid in particular," she said. "We should avoid inappropriate medications like benzodiazepines, and we should use a multimodal therapy with opioid-sparing and regional techniques."

Pulmonary considerations for anesthesia include susceptibility to hypercarbia and hypoxemia, and susceptibility to residual anesthetic effects. "Because of physiologic changes, the anesthesia medications aren't metabolized in the same way," she said. "Older people may have lower drug requirements and may not recover as quickly from the effects of these drugs. This can lead to respiratory compromise and also can increase the risk of aspiration." Strategies to prevent pulmonary complications include using regional anesthesia when possible and avoiding the use of intermediate- and long-acting neuromuscular blocking agents. Dr. Rosenthal said that there is insufficient evidence in the current medical literature to recommend a single "best" intraoperative fluid management plan for all older adults. "Part of the reason it's so difficult is because of the cardiac physiologic changes [with aging]," she explained. "Older people are susceptible to volume overload. On the other hand, they also may have an exaggerated decline in cardiac function if you give them too little fluid and they have insufficient preload. It's a very fine line and that's why it's hard to recommend a single best strategy."

Be Alert to Postop Delirium

Postoperatively, the guideline recommends that care plans include controlling perioperative acute pain; addressing delirium/cognitive issues; preventing functional decline, falls, pressure ulcers, and urinary tract infections; maintaining adequate nutrition; and avoiding pulmonary complications. Dr. Rosenthal underscored the importance of using the four-question Short Confusion Assessment Method to assess for delirium. "For it to be delirium, there has to be evidence of acute change in mental status from baseline; it has to be acute and fluctuating, and characterized by inattention," she said. "The patient also has to have either disorganized thinking or an altered level of consciousness."

Many of the precipitating factors of delirium can be prevented by treating pain, watching medications, preventing dehydration and undernutrition, removing catheters and other devices when possible, preventing constipation, and using minimally invasive techniques to reduce the physiologic stress of surgery. "Sometimes symptoms of delirium are a warning sign that something else is going on, such as an infection, hypoxemia, electrolyte imbalance, neurological events, and major organ dysfunction," she said. The first-line therapy for treating delirium as recommended in the guideline is a multicomponent intervention that focuses on frequent reorientation with voice, calendars, and clocks; eliminating use of restraints; having familiar objects in the room; and ensuring the use of assistive devices. The second-line therapy is antipsychotic medications at the lowest effective dose. "The mantra is start low and go slow," she said.

Postoperative Functional Decline

Another postoperative strategy in the guideline involves targeted fall prevention, such as having an assistive device at the bedside if used as an outpatient and prescribing early physical therapy focused on maintaining mobility as the primary event. "Every day an older patient is immobilized it takes at least 3 days to regain the lost function," Dr. Rosenthal said. "And for older surgical patients, one in four experiences a significant decline in function by hospital discharge and 60% experience some loss of independence." (The latter statistic comes from a study published online in *JAMA Surgery* [doi:10.1001/jamasurg.2016.1689].) Interventions for preventing functional decline include promotion of family participation in care, early mobilization, early physical/occupational therapy referral, geriatric consultation, comprehensive discharge planning, and nutritional support. She pointed out that an estimated 40% of community-dwelling elders and two-thirds of nursing home residents are either malnourished or "at risk" of malnutrition.

Transition of Care

The final category in the guideline, transition of care, recommends an assessment of social support/home health needs, complete medication review, pre-discharge geriatric assessment, formal written discharge instructions, and communication with the patient's primary care physician. "Common models of transitional care involve good coordination with the primary care physician," she said. "There's good data to show that people who see their primary care physician within 2 weeks of discharge do better in terms of readmission."

Dr. Rosenthal reported having no financial disclosures.

Doug Brunk is with the San Diego bureau of Frontline Medical News.

EDITOR'S NOTE

Every time I see one of these recommendations from surgeons and anesthesiologists to be judicious in performing surgery on frail elderly patients, especially when they have practical advice like this set of guidelines (which, it's clear after a moment's perusal, included substantial geriatrician input), I feel like we are getting somewhere. Unfortunately, as with so many similar practice guidelines, those who will follow them are probably largely the ones who are already doing these things — and those who really need to read it will continue with business as usual, doing elective bilateral total knee replacements in moderately demented, barely ambulatory nonagenarians. But it represents more progress in bringing attention to the risks of anesthesia and surgery, and these should be shared with consumers as well. Delirium is bad news, and so often we see a patient undergo some seemingly minor procedure and basically never return to baseline. They just don't have the reserves. So, let's encourage our surgeon and anesthesiologist colleagues to read and consider these guidelines in their daily practice, and let's be sure we talk to our patients and their families about risks before the mask goes on and the blade drops.

—Karl Steinberg, MD, CMD, HMDC
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