Outcomes Improving for Elderly With Appendicitis

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New England Bureau

Dallas — Appendicitis in the elderly is not as threatening as it once was, thanks to increased use of computed tomography to aid diagnosis as well as minimally invasive surgery, said Dr. Charudutt Paranjape at the annual meeting of the Society of American Gastrointestinal and Endoscopic Surgeons.

Historically, older patients with appendicitis have had worse outcomes than younger patients "because they are less likely to present with classic symptoms," Dr. Paranjape said. This delays diagnosis and treatment, increasing the risk of perforation and associated morbidity and mortality.

To evaluate whether recent diagnostic

The new findings suggest that minimally invasive surgery and preoperative CT scanning have changed the management of appendicitis in the elderly.

and treatment advances have influenced outcomes in this patient population, Dr. Paranjape and his colleagues Akron (Ohio) General Medical Center conducted a retrospective study of 116 patients 60 years and older who un-

derwent appendectomy at the medical center between 1999 and 2004. They compared outcomes of laparoscopic and open surgical procedures, and compared the findings with those of two previously published series from the same institution—one of which looked at results from 1978 to 1988 and the other from 1988 to 1998.

Of the 116 patients, 66 were women. Overall, 68 of the procedures were laparoscopic and 48 were performed via open surgery, including 8 that were converted to open surgery from an initial laparoscopic attempt. When the data were analyzed based on patients with and without perforations, the ratio of laparoscopic to open surgery cases remained consistent, he noted. The appendix was considered perforated if there was free rupture of intraluminal contents, and nonperforated if there was inflammation with or without necrosis without free perforation.

In only 17% of the laparoscopic and 16% of the open surgery patients, the presentation included classic symptoms of right lower quadrant pain, fever, white blood cell count over $10,000~\mu\text{L}$, and nausea or vomiting. Similar rates were seen in the earlier studies.

Diagnostic preoperative CT scans were performed in 79% of cases, with a 94% accuracy rate. "This contributed to a high rate of accuracy [87%] of initial diagnosis upon admission in both the laparoscopic and open surgery patients," he said. In contrast, in the 10-year series concluding in 1998, 44% of the patients underwent preoperative CT scanning, with a 90% accuracy rate. Computed tomography was scarcely used in the first patient series.

Consistent with data from other recent studies, laparoscopic surgery was associated with a significantly shorter length of hospital stay and fewer complications overall, compared with open surgery. The groups had similar rates of postoperative intraabdominal infections; that contradicts findings in earlier studies suggesting an increased number of abscesses associated with laparoscopic appendectomies.

Emergency department to operating room time was similar in both groups, as

was total surgery time. The latter finding is of note "because previous studies have suggested that laparoscopic surgery takes longer than the open procedure," he said.

When broken down by perforated vs. nonperforated, "emergency department to operating room time was less in the perforated group, but surgery time and length of stay was significantly longer, as would be expected," Dr. Paranjape said.

Compared with the earlier series, significantly fewer cases of perforated ap-

pendicitis were seen in the present study, and perforations that were encountered were associated with fewer complications, he noted. Also, mortality decreased from 4% to 1%, although the difference is not statistically significant, he noted.

Although the numbers are limited, the new findings suggest that minimally invasive surgery, along with preoperative CT scanning, has changed the clinical management of acute appendicitis in elderly patients, Dr. Paranjape said.



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