Clinical Capsules

Enzyme Levels in Barrett's Esophagus

Reduced expression of manganese superoxide dismutase may indicate increased vulnerability to oxidative stress and carcinogenesis in patients with Barrett's esophagus, reported Dr. Bruce F. Hermann and his associates at the University of Louisville (Ky.).

Endoscopic surveillance is the only clinical strategy available to evaluate the risk of Barrett's esophagus progressing to esophageal adenocarcinoma, so the investigators sought to determine whether measurement of tissue levels of manganese superoxide dismutase (MnSOD) could be a clinically useful marker for distinguishing low- and high-risk patients.

Dr. Hermann and his associates obtained endoscopic specimens from 92 patients—81 men and 11 women—including 22 patients with specialized intestinal metaplasia, 22 with low-grade dysplasia, 16 with high-grade dysplasia, and 15 with esophageal adenocarcinoma. The control group included 17 patients with normal esophagus, most of whom had reflux symptoms. MnSOD expression was evaluated using immunochemistry and graded on a scale ranging from 0 to 3 for the esophageal mucosa and submucosa of each specimen, yielding a total score of 0-6 for the two histoanatomic sites combined (Arch. Surg. 2005;140:1204-9).

The reduction in MnSOD expression was most pronounced in patients with specialized intestinal metaplasia, "but remained consistent from dysplasia to adenocarcinoma," the investigators noted.

In an invited critique of the paper, Dr. John W. Harmon of Johns Hopkins Bayview Medical Center, Baltimore, and his colleagues stated that the study "is not completely convincing" because it focused only on MnSOD. Measurement of the other two forms of the enzyme might put in perspective the "unusual finding" that MnSOD levels were not elevated in the cancer specimens, they said (Arch. Surg. 2005;140:1209).

Mini-Laparoscopic Cholecystectomy

The use of miniaturized instruments during laparoscopic cholecystectomy reduced early postoperative incisional pain, prevented late incisional discomfort, and improved cosmetic results in a randomized trial of 79 patients scheduled for elective surgery.

Dr. Yuri W. Novitsky and his associates at the University of Massachusetts Medical School, Worcester, randomized 34 patients to mini-laparoscopic cholecystectomy (M-LC) and 33 patients to conventional laparoscopic cholecystectomy (C-LC); 12 of the 79 patients were excluded after randomization because of complications or logistical reasons. In the M-LC group, there were eight conversions to the C-LC procedure. Neither group had any intraoperative or major postoperative complications (Arch. Surg. 2005;140:1178-83).

The researchers modified C-LC by using 2-mm subcostal and lateral ports, a 10-mm umbilical port, and 2-mm graspers. Also, they used a 5-mm clip applier on the cystic artery and duct and a 5-mm 30° laparoscope through the epigastric port.

On postop days 1, 3, 7, and 28, patients rated postoperative incisional pain on a standard visual analog scale from 0 (no pain) to 10 (worst possible pain). On 1 day postop, the mean pain score was significantly less in the M-LC group (3.9) than in the C-LC group (4.9). There were no significant differences between groups on the remaining days, but at 28 days postop 90% of M-LC patients and 74% of C-LC patients had no pain.

At the 1-month follow-up visit, the patients and a nurse—all blinded to the type of instruments used—scored M-LC wounds as having significantly better cosmetic appearances than C-LC wounds.

Treatment for Zenker's Diverticula

Endoscopic treatment of Zenker's diverticula is safe and effective, requiring a short operating time and length of hospital stay, according to a small prospective study.

The study of 16 patients who required cricopharyngeal myotomy and Zenker's diverticuloplasty revealed that 9 patients could be successfully treated endoscopically, Dr. Dalilah Fortin reported at the annual meeting of the Canadian Association of Thoracic Surgery in Montreal. Dr. Fortin, a thoracic surgeon at the London Health Sciences Centre in London, Ont., added that an open procedure might be preferable for patients with smaller diverticula.

Three procedures were not attempted endoscopically because of the presence of very small diverticula, and four attempted endoscopic repairs had to be converted to open procedures because of poor visualization of the diverticula, she said. Among the nine successful endoscopic procedures, operative time was less than 1 hour in all cases and length of hospital stay was 24 hours, she said. The most serious apparent endoscopic complication was a mucosal tear, which was sutured endoscopically.

—From staff reports