GASTRO-HEP News

By Christina Lesica

Standards Set for Computed Tomography Colonography

Recognizing that computed tomography (CT) colonography will play a role in screening for colorectal cancer (CRC) and that there is a critical need to increase overall CRC screening rates, the American Gastroenterological Association (AGA) has issued minimum standards for the performance of CT colonography, which were published in the September issue of *Gastroenterology*.

The recommendations made by the AGA Institute Task Force on CT Colonography include:

- Any polyp greater than 6 mm in size should be reported and the patient referred for consideration of endoscopic polypectomy.
- Patients with 3 or more polyps of any size in the setting of high diagnostic confidence should also be referred for consideration of endoscopic polypectomy.
- The appropriate clinical management of patients with 1–2 lesions no greater than 5 mm in diameter is unknown. In the absence of data, the follow-up interval recommended for these patients should be based on individual characteristics of the patient and procedure.
- Practices offering CT colonography should establish a technical quality control program.
- Endoscopic results in patients referred from CT colonography to endoscopy, including true-positive and false-negative rates, should be tracked.
- Split interpretations of CT colonography are feasible.
- Gastroenterologists and radiologists performing split interpretations should dictate and sign separate procedure reports that clearly state the specific services they performed related to CT colonography.
- CT colonography should be performed using multidetector CT protocols with high spatial resolution.
- Computer workstations for dedicated CT colonography interpretation should permit 2-dimensional and 3-dimensional correlation and visualization of the colonic lumen.
- CT colonography images should be archived for later comparison.
- Primary 2-dimensional or 3-dimensional review of the endoluminal surface of the colon and rectum is required.

In addition, the Task Force states that to ensure competence, a minimum of 75 endoscopically confirmed cases should be interpreted by the physician. Thereafter, it recommends that gastroenterologists participate in a mentored CT colonography preceptorship with the candidate present and involved in the interpretation of at least 25–50 additional cases and that those performing CT colonography undertake ongoing training and self assessment.

Beta Blockers Versus Banding to Prevent Variceal Bleeding

A study published in the September issue of *Liver Transplantation* compared the safety and efficacy of beta blockers and endoscopic variceal ligation or banding in the prevention of primary variceal bleeding in patients with cirrhosis and portal hypertension. Researchers led by Lorenzo Norberto, MD, of the University of Padova in Italy, conducted this randomized, controlled trial among liver transplant candidates.

Between September 2001 and December 2005, 62 patients with Child-Turcotte-Pugh B–C cirrhosis and high-risk esophageal varices were enrolled in the study and randomly assigned to treatment with the beta blocker propranolol (Inderal, Wyeth; n=31) or variceal banding (n=31). Variceal bleeding was the primary endpoint. There were 2 variceal hemorrhages (6.5%) related to postbanding ulcers in the banding arm and 3 (9.7%) in the beta blocker arm (*P*=NS). Three deaths and 1 bleeding-related death occurred in the banding arm, whereas the beta blocker arm had 3 deaths and 2 bleeding-related deaths (*P*=NS). A total of 14 patients underwent liver transplantation in the banding arm compared with 10 patients in the beta blocker arm (*P*=NS). Adverse events included 2 postbanding ulcer bleedings in banded patients (1 fatal case). Five patients were intolerant to the beta blocker (*P*=NS). Mean costs per patient were higher in the banding arm than in the beta blocker arm ($4,289 ±285 vs $1,425 ± $460, *P*<.001). The authors concluded that beta blockers and banding were similarly effective in reducing the incidence of variceal bleeding in liver transplant candidates but that banding could be complicated by fatal bleeding and was more expensive. They recommended that beta blockers remain the primary prophylaxis in liver transplant candidates, unless beta blockers are contraindicated.

Vancomycin Versus Metronidazole for the Treatment of *Clostridium Difficile*-associated Diarrhea

Researchers at the University of Chicago conducted a prospective, randomized, double-blind, placebo-con-

trolled trial to determine whether vancomycin or metronidazole was superior for treating mild or severe *Clostridium difficile*-associated diarrhea (CDAD). The results of the trial were published in a recent issue of *Clinical Infectious Diseases*.

In the trial, which ran from October 1994 to June 2002, CDAD patients with mild disease were separated from patients with moderate disease (based on clinical criteria). Patients were then randomly assigned to receive oral metronidazole (250 mg four times daily) or oral vancomycin (125 mg four times daily) for 10 days. An oral placebo was also administered to both arms. The patients were followed for 21 days.

Of the 172 patients initially enrolled, only 150 completed the trial. Among patients with mild CDAD, treatment with metronidazole or vancomycin resulted in clinical cure in 90% and 98%, respectively (P=.36). Among patients with severe CDAD, treatment with metronidazole or vancomycin resulted in clinical cure in 76% and 97%, respectively (P=.02). Clinical symptoms recurred in 15% of the patients treated with metronidazole and 14% of those treated with vancomycin.

Familial Association in Primary Biliary Cirrhosis

Researchers at the Mayo Clinic, Rochester, Minn., investigated the prevalence of antimitochondrial antibodies (AMAs) in first-degree relatives of primary biliary cirrhosis (PBC) probands, according to a recent issue of *Hepatology*. In this study, the largest of its kind, researchers used a PBC family registry to prospectively screen for AMAs in the serum of 306 first-degree relatives in 145 pedigrees, 350 PBC probands, and 196 controls who were matched by age, sex, race, and residence to the probands.

The prevalence of AMA in first-degree relatives was 13.1% compared to 1% in the controls. Researchers found an even greater prevalence of AMA in female first-degree relatives of PBC probands (sisters, 20.7%; mothers, 15.1%; daughters, 9.8%) than in male first-degree relatives (brothers, 7.8%; fathers, 3.7%; and sons, 0%). The authors concluded that AMAs aggregate among first-degree relatives of PBC probands and noted that their data have clinical implications for first-degree relatives of PBC probands, as AMA-positivity may suggest susceptibility to PBC. "Because collectively 1 in 5 sisters of a PBC patient has antimitochondrial antibodies in their blood, we think it is worthwhile to screen first-degree relatives, particularly those older than 40 years, for this biomarker. It is a simple, inexpensive blood test that could lead to earlier diagnosis and treatment—and ultimately, better outcomes for PBC patients," said Konstantinos Lazaridis, MD, lead author of the study.

Inhaled Nitric Oxide Improves Liver Function in Transplant Recipients

According to the September issue of the *Journal of Clinical Investigation*, researchers at the University of Washington, Seattle, and the University of Alabama at Birmingham investigated their hypothesis that the administration of inhaled nitric oxide (iNO; 80 ppm) to patients undergoing orthotopic liver transplantation inhibits hepatic ischemia/reperfusion injury, resulting in improved liver function. In this prospective, blinded, placebo-controlled study, patients were randomized to receive either placebo (n=10) or iNO (n=10) only during the operative period.

When the researchers adjusted the study results for cold ischemia time and gender, iNO significantly decreased the length of hospital stay. In addition, evaluation of alanine aminotransaminase, aspartate aminotransferase, prothrombin time, and partial thromboplastin time demonstrated that iNO increased the rate at which liver function was restored after transplantation. iNO did not significantly affect changes in liver-tissue inflammatory markers 1 hour after reperfusion but significantly lowered hepatocyte apoptosis. Further analysis of the circulating nitric metabolites indicated that the beneficial effects of iNO were likely mediated through the increased levels of nitrite in the circulation. Despite the promising results, the authors noted that further studies with larger numbers of patients are needed before making a final conclusion about the benefits of iNO.

Bariatric Surgery and Long-term Mortality

Two studies published in a recent issue of the *New England Journal of Medicine* investigated long-term mortality among patients who underwent bariatric surgery.

A prospective, controlled Swedish Obese Subjects study, led by Lars Sjöström, MD, PhD, Sahlgrenska University Hospital, Gothenburg, Sweden, examined 4,047 severely obese subjects. Subjects who elected to undergo bariatric surgery (n=2,010) were matched on 18 factors with control patients who did not undergo surgery. The subjects were followed for an average of 10.9 years. Vital status was missing in only 3 subjects (follow-up rate, 99.9%). The average weight change in control subjects was less than ±2% during the follow-up period. Maximum weight losses in the surgical subgroups were observed after 1–2 years: 32% for gastric bypass; 25% for vertical-banded gastroplasty; and 20% for banding. After 10 years, the weight losses from baseline stabilized at 25%, 16%, and 14%, respectively. Surgical revision rates ranged from 17% to 31%, depending on the procedure. During follow-up, the control arm had 129 deaths, whereas the surgery arm had 101 deaths (6.3% vs 5.0%). The surgery arm had an unadjusted overall hazard ratio of 0.76 (95%

confidence interval [CI], 0.59–0.99) compared to the control arm; adjusted for sex, age, and risk factors, the hazard ratio was 0.71 (95% CI, 0.54–0.92).

In a separate, retrospective study, researchers, led by Ted D. Adams, PhD, MPH, University of Utah School of Medicine, Salt Lake City, Utah, evaluated the long-term mortality of a cohort of 9,949 extremely obese patients who had undergone gastric bypass surgery, which had been performed by six surgeons over a period of 18 years. Age, sex, and body-mass index were used to select matched controls (n=7,925) among applicants for driver's licenses. The National Death Index was used to determine the mortality rates for each group. Subjects were followed for a mean of 7.1 years. In the surgical arm, adjusted long-term mortality from any cause decreased by 40% compared with the control arm (37.6 vs 57.1 deaths per 10,000 person-years, P<.001). Cause-specific mortality in the surgical arm decreased by 56% for coronary artery disease (2.6 vs 5.9 per 10,000 person-years, P=.006), by 92% for diabetes (0.4 vs 3.4 per 10,000 person-years, P=.005), and by 60% for cancer (5.5 vs 13.3 per 10,000 person-years, P<.001). However, non–disease-related (such as accident and suicide) mortality rates were 58% higher in the surgical arm than in the control arm (11.1 vs 6.4 per 10,000 person-years, P=.04).

In Brief

According to a prospective, 6–10-year long-term study, laparoscopic fundoplication provided effective, long-term treatment of gastroesophageal reflux disease, although hernia recurrence and dysphagia were associated adverse events. (*J Gastrointest Surg*. 2007;11:1138-1145.)

Serum levels of leptin and adiponectin had no significant alterations, while serum-resistin levels were significantly decreased, after infliximab therapy in inflammatory bowel disease (IBD) patients, suggesting a possible proinflammatory status for resistin in IBD and a role as a marker of successful therapy, according to a small study. (*Eur J Gastroenterol Hepatol*. 2007;19:789-794.)

Superselective transcatheter arterial chemoembolization with use of low-dose anticancer drugs induced transient impairment in liver function in a comparative study of patients with hepatocellular carcinoma, but use of conventional-dose anticancer drugs could cause lasting, more serious worsening of liver function. (*Hepatogastroenterology.* 2007;54:1499-1502.)