Capsule Endoscopy in Intestinal Graft-Versus-Host Disease

The small intestine is the most common location of intestinal GVHD. EGD with duodenal biopsy yields the highest diagnostic sensitivity, but the jejunum and ileum are not accessible by regular endoscopy. In contrast, wireless capsule endoscopy (WCE) offers complete evaluation of the small intestine.

To compare the diagnostic value of EGD with biopsy with the results of WCE in patients with acute intestinal symptoms who received allogenic blood stem cell transplantation and to analyze the appearance and distribution of acute intestinal GVHD lesions in these patients, an investigative-blinded, single-center prospective study was carried out. Clinical data were recorded during two months of follow-up with performance of the procedures within 24 hours of symptoms.

Fourteen consecutive patients were recruited with these symptoms. In one patient the capsule remained in the stomach and was removed endoscopically. In seven of thirteen patients evaluated, acute intestinal GVHD was diagnosed by EGD with biopsies but three of these would have been missed by EGD alone. In all seven patients with histologically confirmed acute intestinal GVHD, WCE revealed typical signs of GVHD. Lesions were scattered throughout the small intestine but were most accentuated in the ileum.

In this study with a small number of patients, WCE showed a comparable sensitivity and high-negative predictive value with diagnosing acute intestinal GVHD and compared with EGD with biopsies. It may be helpful to avoid repeat endoscopic procedures in patients who have undergone stem cell transplantation. (Neumann S, Schoppmeyer K, Lang ET, et al. “Wireless Capsule Endoscopy for Diagnosis of Acute Intestinal Graft-Versus-Host Disease.” Gastrointest Endosc, 2007; 65:403-409.)

Post-ERCP Pancreatitis and Extent of Ductal Opacification

The ERCP data base at this institution was searched for prospectively collected data from 1994 to 2005. A total of 14,331 ERCPs were included in the analysis. Patients were divided into four groups according to the extent of pancreatic duct opacification: Group 1, no attempt at opacification or failed cannulation; Group 2, opacification of the head only; Group 3, opacification of the head and body; Group 4, opacification through the tail. The incidence of severity of pancreatitis was compared between and within each group.

The overall pancreatitis rate was 4%. There was a progressively higher frequency of pancreatitis with increased extent of opacification to the pancreatic ductal system. The overall pancreatitis severity in mild was 2.9%, moderate was 0.8%, and severe was 0.3% of cases. There was a significant difference in pancreatitis severity between patients with pancreatogram and patients without pancreatogram regardless of the grade of filling. However, there was no difference in the pancreatitis severity between groups 2–4. Age at 65 or less versus greater than 65 years, sex, and type of procedure performed including diagnostic versus therapeutic, were not significantly different beyond the extent of pancreatic ductal opacification. Multivariate analysis showed that the suspected sphincter of Oddi dysfunction with manometry and the extent of pancreatic duct opacifications were independent predictors of post-ERCP pancreatitis.

It was concluded that less filling of the pancreatic ductal system was associated with less post-ERCP pancreatitis. Before performing ERCP endoscopists should carefully evaluate whether pancreatogram or what extent of pancreatogram is needed clinically. Greater use of noninvasive pancreatography and less use of ERCP should decrease post-ERCP pancreatitis. (Cheon YK, Cho KE, Watkins JL, et al. “Frequency and Severity of Post-ERCP Pancreatitis Correlated with Extent of Pancreatic Ductal Opacification.” Gastrointest Endosc, 2007;55: 385-393.)

Case Reports Esophageal Trauma from Ingested Food

Eight cases of esophageal trauma from normally ingested foods have been reported. Four additional patients were reported in this letter to the editor.

A 60-year-old man had substernal/epigastric pain, dysphagia, melena, hematemesis, and presyncope minutes after eating corn chips. Endoscopy showed a 4 cm deep distal esophageal tear, and his hemoglobin decreased to 9.7 g/small dL. He recovered with routine care.
A 38-year-old man developed substernal pain, dysphagia, and fever hours after eating Taquitos. He had mild leukocytosis, bibasilar infiltrate, a small right pleural effusion and normal results on esophagraphy. Endoscopy revealed a 6 cm midesophageal laceration and multiple, small distal lacerations. Positive blood cultures were treated with antibiotics.

A 53-year-old man developed epigastric pain immediately after forcefully swallowing an unchewed bite of Taquitos because it was so hot. Melena and hematemesis followed. A chest X-ray showed normal results. Endoscopy showed a 9 cm middle and distal esophageal tear with an adherent clot. His hemoglobin decreased to 10.5/dL. He recovered with routine care.

A 38-year-old woman presented with seven days of progressive substernal pain, dysphagia, and odynophagia that started immediately after she ate a toasted pita bread chip. A chest radiograph showed normal results. Her hemoglobin was 10.0 g/dL and chest CT showed a 34 mm × 26 mm subcarinal mass with a hypodense area. Endoscopy revealed a midesophageal bulge without tear, but her symptoms of mass implied prior esophageal perforation. A EUS needle aspiration and culture and antibiotic therapy were instituted and cure occurred after IV therapy and later oral therapy for six months.

It was interpreted that corn or wheat foods (toasted or fried) caused the esophageal injuries. None had previous esophageal symptoms, used dentures, or developed underlying esophageal disease in 2 to 7½ years of follow-up. The importance of chewing such foods well to prevent serious esophageal trauma is emphasized and the importance in diagnostic consideration are apparent. (Longsteth GF, Buehler JC, Hunt GC. Chips and Rips; “Chew Food Well,” Letters to the Editor. Gastrointest Endosc, 2007;65: 556.)

Lactulose in PSE

Minimal hepatic encephalopathy (MHE) has a negative effect on patients’ daily functioning. To investigate the effective treatment-related improvement in cognitive function on health-related quality of life (HRQOL) psychometric performance by number and figure connection tests parts A and B, picture completion, and block design test and HRQOL by the sickness impact profile (SIP) of 90 patients with cirrhosis was carried out. The study was repeated three months later. A Z-score less than –2 on the neuropsychological (NP) test was considered abnormal. Sixty-one (67.7%) had MHE. They were randomly assigned in a 1:1 ratio to receive treatment with lactulose for three months (31 patients) or no treatment (30) in a non-blinded design. The mean number of abnormal NP tests decreased significantly in patients with the treated group after three months compared with patients in the untreated group. The mean total SIP score improved among patients in the treated group after three months compared with patients in the untreated group. Improvement in HRQOL was related to the improvement in psychometry.

It was concluded that treatment with lactulose improved both cognitive function and HRQOL in patients with cirrhosis who have MHE. (Presad S, Dhiman R, Duseja A, et al. “Lactulose Improves Cognitive Function and Health-Related Quality of Life in Patients with Cirrhosis Who Have Minimal Hepatic Encephalopathy.” Hepatology, 2007;45:549-559.)

Sertraline Treatment for Cholestatic Pruritus

A study was undertaken to establish the dose of sertraline and to evaluate its efficacy for cholestatic pruritus. Twenty-one subjects with chronic pruritus due to liver disease including primary biliary cirrhosis, primary sclerosing cholangitis, chronic hepatitis C, and post necrotic cirrhosis initially underwent an open-label, dose escalation to determine the dose with optimal efficacy and tolerability. After a washed out period, 12 of the subjects entered a randomized, double-blind placebo-control trial. Participants quantified their pruritus using a 0–10 visual analog scale and pruritus was assessed for distribution, timing, degree of disability and physical evidence of scratching. The optimal sertraline dose (75–100 mg per day) was well tolerated in the controlled portion of the study. Itch scores improved in patients taking sertraline, but worsened in patients taking placebo. Changes in itch distribution, duration, direction, and physical evidence of scratching paralleled changes in visual analog pruritus score.

It was concluded that sertraline was an effective, well-tolerated treatment for pruritus due to chronic liver disease. The results suggest that serotonergic pathways are important in the perception of itch. (Mayo MJ, Handem I, Saldana S, et al. “Sertraline as a

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**Low-Grade Dysplasia in Barrett’s Esophagus**

Baseline biopsies from 77 BE patients with dysplasia including 44 who progressed to esophageal adenocarcinoma (EA) and 33 who did not progress during follow-up were evaluated. The total numbers of low-grade dysplasia (LGD) and high-grade dysplasia (HGD) crypts were determined separately by counting all crypts and the extent of LGD, HGD, and total dysplasia and were correlated with EA outcome.

Thirty-one and forty-six patients had a maximum diagnosis of LGD and HGD respectively. When the crypts were stratified by dysplasia grade, the mean number of LGD crypts per patient was borderline higher in progressors (93.9) compared with nonprogressors (41.2), and the mean proportion of LGD crypts per patient were significantly higher in progressors (46.4% versus 26.0%). Neither the mean number of HGD crypts per patient nor the mean proportion of HGD crypts per patient was significantly associated with EA outcome.

It was concluded the extent of LGD is a significant risk factor for the development of EA and BE in this study. Although the presence of HGD is significantly associated with a greater relative risk for the development of EA, the extent of HGD was not an independent risk factor for progression. (Srivastava A, Hornick J, Li X, et al. “Extent of Low-Grade Dysplasia is a Risk Factor for the Development of Esophageal Adenocarcinoma in Barrett’s Esophagus.” *Am J Gastroenterol*, 2007;102: 483-493.)

**Hepatitis E Vaccine**

In Nepal, 2000 healthy adults susceptible to HEV infection were randomly assigned to receive three doses of either the rHEV vaccine or a placebo at months zero, 1 and 6. Active surveillance was used to identify acute hepatitis and adverse events. The primary end point was development of hepatitis E after three vaccine doses.

Seventeen hundred and ninety-four subjects equally divided between vaccine and placebo groups received the three vaccine doses; the total vaccinated cohort was followed for a median of 804 days. After three vaccine doses, hepatitis E developed in 69 subjects, of whom 66 were in the placebo group. The vaccine efficacy was 95.5%. In an intention-to-treat analysis that included all 87 subjects in whom hepatitis E developed after the first vaccine dose, 9 subjects were in the vaccine group, with a vaccine efficacy of 88.5 percent. Among subjects in a subgroup randomly selected for analysis of injection-site findings and general symptoms during the 8-day period after the administration of any dose, the proportion of subjects with adverse events was similar in the two study groups, except for the injection-site pain being increased in the vaccine group.

It was concluded that in high-risk population, the rHEV vaccine was effective in the prevention of hepatitis E. (Shrestha MP, Scott RM, Joshi DM, et al. “Safety and Efficacy of a Recombinant Hepatitis E Vaccine.” *NEJM*, 2007;356: 895-903.)

**Noncardiac Chest Pain and Theophylline**

A double-blind study was carried out, assessing sensory and biomechanical properties of the esophagus, using impedance planimetry in sixteen patients with esophageal hypersensitivity, after intravenous Theophylline or placebo.

In a second, randomized, four-week crossover study, oral Theophylline and placebo were administered to 24 patients with esophageal hypersensitivity. Frequency, intensity, and duration of chest pain episodes were evaluated.

After IV Theophylline, chest pain threshold and esophageal cross-sectional area increased and the esophageal wall became more distensible, compared with placebo. After oral Theophylline, a number of painful days and chest pain episodes, pain duration and severity decreased. Overall, symptoms improved in 58 percent on Theophylline and 6 percent on placebo. There was no order effect.


Murray H. Cohen, D.O., editor of “From the Literature” is a member of the Editorial Board of *Practical Gastroenterology.*