Letters

Complications of upper gastrointestinal endoscopy in unsedated patients

Previous studies have shown that more than half the cardiopulmonary events in patients undergoing esophagogastroduodenoscopy (EGD) are caused by intravenous sedative drugs. We retrospectively surveyed the complications of EGD in patients undergoing the procedure without IV sedation.

All patients referred to our endoscopy department (Fatemiah Hospital) for upper gastrointestinal diseases during a 10-year period (1992-2002) were seen 24 hours after the procedure for evaluation of any complications. Patients who had received IV sedation or in whom the procedure was done by physicians with experience of less than 500 EGD procedures were excluded from study. All procedures were done after 100 mg lidocaine spray for pre-medication. During the 10 years, 34,310 upper EGD procedures were performed in our center; 25,820 of them were relevant to our study. Six percent of patients were excluded either because the procedure could not be completed due to intolerance or because of the need for sedative drugs. The 25,820 cases analyzed were classified into two groups, diagnostic and therapeutic.

Diagnostic endoscopy had 19 complications; 10 were major (0.04%), including 3 perforations, 5 hemorrhages (Mallory-Weiss tears), and 2 cardiopulmonary events. Nine patients had other complications (0.03%), including temporo-mandibular joint dislocation, hallucination, epistaxis, conjunctival bleeding, endoscope entrapment in the esophagus, convulsion, recurrence of oral lichen planus, hoarseness of voice, and vocal cord paresis. Transient vocal cord paresis after diagnostic endoscopy has not been reported previously. Six patients died, 3 in emergency (0.49%), 3 in elective procedures (0.011%). The causes of death included 2 perforations, one methemoglobinemia, one cardiac arrest, and 2 mediastinitis after sclerotherapy.

The few complications and mortality reported with EGD are related to three critical factors: endoscopy technique, endoscopist skill, and use of pre-medication. Middle-aged patients usually tolerate EGD well; even children tolerate it without discomfort. We prefer performing EGD, especially in the outpatient, without IV sedation; but such patients, especially the elderly and those with cardiopulmonary problems, must be closely monitored.

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References

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Localization of liver borders by auscultation to measure liver span

Clinically the upper border of the liver is localized by percussion. If there is cellulitis or injury to the thoracic wall or fracture of the rib(s) on the right side the percussion may cause pain. If the lower border of the liver is above the costal margin then it cannot be localized by the palpation method. These problems can be overcome by the auscultation method described below.

To mark the level of the upper border of the liver keep the chest piece of the stethoscope near the costal margin in the right midclavicular line. With the tip of the index finger on the skin at the top of the line make a horizontal rubbing movement. A faint scratch sound will be heard through the stethoscope. While making the rubbing movements move the finger downwards towards the costal margin. There will be a sudden increase in the intensity of the sound when the upper border of the liver is reached, because of the change in the consistency of the sound-conducting tissue.

To mark the lower border of the liver keep the chest piece of the stethoscope near the upper border of the liver, which has been marked earlier. Start the rubbing movements with the index finger at the level of the costal margin and move upwards. There will be a sudden change in the intensity of the sound when the lower border is reached.

To validate the accuracy of this method, the liver span in the midclavicular line was also measured by ultrasonography in 500 healthy children by Dr Rajan Wahi (Wahi's Central Diagnostic Clinic, Jaipur) using GE-RT-3600 (GE Medical System, USA) with 5 MHz sector transducer. In co-operative children the difference between the clinical measurement by this method and the sonographic measurement was less than 0.3 cm.
The liver span ranged from 3.5 cm to 7.3 cm in neonates, being larger in girls. It increased with age, reaching 8.4 cm to 12.5 cm in children 12 years of age; in this age group the liver was larger in boys.

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Free and total carnitine levels in patients with celiac disease

The article by Yuce and colleagues 1 is an important contribution to the literature on carnitine metabolism in celiac patients. In this study mean serum free carnitine levels were significantly lower in patients with active celiac disease, none of whom had symptoms of carnitine deficiency, than among controls. Lerner and colleagues 2 reported that serum total carnitine (but not free carnitine) was significantly decreased in a small group of patients with active celiac disease. In 2003 Roggero and colleagues 3 presented an 18-month-old boy who was admitted to the hospital because of delay in motor skill development. The patient was diagnosed to have free and total carnitine deficiency due to celiac disease.

An assessment of carnitine status requires knowledge of its free and total levels. 9 Activated carboxylic acids are reversibly transferred between coenzyme and carnitine (carnitine + acyl-CoA ↔ acylcarnitine + CoA). Recently we measured serum free and total carnitine concentrations in 31 patients with celiac disease (ages 4-53 years) by use of enzymatic method and spectrophotometric detection. The study group consisted of 6 newly diagnosed symptomatic celiacs (ND), 15 patients without antidiomysial antibodies (EMA) on strict gluten-free diet (GFD), and 10 EMA-positive patients who were non-compliant with gluten-free diet (GD). Free carnitine deficiency (N >30 µmol/L) was observed in 4/6 ND, 3/10 GD and 0/15 GFD. Total carnitine concentrations were below the normal (N >37 µmol/L) in 3/6 ND, 1/10 GD and 0/15 GFD. Mean levels of free carnitine and of total carnitine were higher in GFD (44.6 [6.8] µmol/L, 54.2 [8.1] µmol/L in comparison to GD (33.4 [8.6] µmol/L, 45.6 [9.7] µmol/L) and to ND (24.7 [8.9] µmol/L, 34.7 [9.3] µmol/L, p<0.05). In one GD woman with muscle weakness and low free and total carnitine concentrations, supplementation with this compound improved muscle tone.

We agree with Yuce and colleagues 1 that the need for supplementation of carnitine in patients with celiac disease needs further investigation, and we recommend assessment of not only free carnitine but also of total carnitine, in patients with gluten-sensitive enteropathy.

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References

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‘Do-nothing’ alternative and cost-minimization evaluations

Aggarwal and Ghoshal 1 in their editorial have raised an interesting point about cost-minimization evaluations. They argue that cost is minimized by ‘doing nothing’. This argument is flawed and needs to be corrected.

Cost-minimization evaluations involve comparing costs of alternative interventions whose benefits are identical. 2 We compare the costs of a branded drug and its generic equivalent if both are equally efficacious. Costs cannot be compared if the benefits are unequal.

If ‘doing nothing’ as an alternative is as effective as universal immunization with hepatitis B (i.e., the vaccine is no better than placebo), then certainly ‘do nothing’ is to be preferred as the cost-minimization strategy of choice. If the vaccine prevents even one case of hepatitis B, then it cannot be compared to ‘do nothing’ for cost-minimization evaluation.

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References

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Reply from the authors

We thank Dr Agarwal for his interest in our paper. We agree with him that cost-minimization evaluation for comparison of two competing approaches is appropriate only when these offer equal benefits. Our editorial wished