Bronchoscopy in Patients with Gastroparesis

To the Editor:

Fiberoptic bronchoscopy has very little morbidity when performed by trained, experienced physicians. In particular, emesis with aspiration into airways has rarely been reported, probably because bronchoscopists are careful to keep their patients "NPO after midnight." However, patients who have had gastric surgery and those with diabetes mellitus may not have complete gastric emptying after just an overnight fast. They may be at increased risk for vomiting with airway aspiration during endoscopy unless special precautions are taken.

CASE REPORT

A 59-year-old man was admitted for evaluation of a new left hilar mass. Wedge resection of a 2 cm left upper lobe nodule 14 months previously showed large cell undifferentiated carcinoma. He described infrequent postprandial bloating and nausea since surgery. He had undergone vagotomy, subtotal gastrectomy, and gastrojejunostomy three years earlier for a perforated duodenal ulcer.

After fasting overnight for 14 hours, he received diazepam orally and atropine, hydroxyzine, and morphine sulfate intramuscularly as premedication for fiberoptic bronchoscopy. Topical 2 percent lidocaine was given as local anesthesia. We passed the bronchoscope through the vocal cords easily, but as we approached the main carina, the patient vomited approximately 100 ml of partially digested food from the previous evening's dinner. We observed a small amount of vomitus in the trachea. We quickly removed the bronchoscope and placed him in a lateral decubitus position. He did not develop clinical or radiographic signs of aspiration pneumonia. An upper gastrointestinal series showed a widely patent gastrojejunostomy anastomosis, but retained food was still present in the gastric remnant after an overnight fast.

Five days after the first attempt, we successfully completed the fiberoptic bronchoscopy without complication. The only difference between the two procedures was that the patient ate a clear liquid diet the day prior to the second bronchoscopy.

DISCUSSION

Gastroparesis is a poorly understood neuropathic disorder of the stomach characterized by nausea, emesis, recurrent bzoars, and radiologic or endoscopic evidence of gastric stasis in the absence of physical obstruction. Solid food may be retained in the stomach or stomach remnant for hours. Gastroparesis occurs as a late complication of gastric surgery with vagotomy in some patients. Patients with diabetes mellitus may have gastroparesis, often asymptomatic, as a manifestation of autonomic neuropathy. However, it is difficult to predict the nature of a gastric emptying disorder on the basis of clinical symptoms. We believe that all patients who have had gastric surgery and all diabetics should therefore be treated as if they had gastroparesis.

To minimize the risk of aspiration during bronchoscopy, we suggest that patients who have had gastric surgery and patients with diabetes mellitus eat a clear liquid diet on the day prior to endoscopy. Liquids are handled by the stomach in a different manner than solids, so that even with gastroparesis, liquids are promptly emptied into the small bowel. In emergencies, when time does not permit a clear liquid diet prior to bronchoscopy, metoclopramide will hasten gastric emptying. By following these simple precautions in this special patient group, fiberoptic bronchoscopy will continue to enjoy a remarkable safety record.

REFERENCES


Pheochromocytoma and Asthma

To the Editor:

We report a 61-year-old woman who developed daily attacks of asthma after removal of an adrenal pheochromocytoma. Six years previously, she had mild attacks of wheezing in association with respiratory infections. This symptom improved three years later, when she became hypertensive and was treated with several drugs.

For six months before coming to our hospital, the patient suffered several superimposed paroxysmal rises in blood pressure. In the hospital, after several procedures, a diagnosis of pheochromocytoma was made (CT scan revealed a mass in the left adrenal gland; urine norepinephrine level 165 ng/24 hrs; urine epinephrine level 152 ng/24 hrs). Before surgery, she received therapy with diphenoxylate, an alpha-blocking agent, without reaction, but after injection of 30 mg of propranolol, a non-selective beta-blocking agent, she experienced a severe asthmatic attack. This reaction was repeated after administration of 50 mg of atenolol, a beta-selective blocking agent.

After removing the tumor, her arterial tension was controlled, but she began again with daily asthma crises. An allergy study was negative, labelled as intrinsic asthma. One year after discharge, she required therapy with theophyllines, a beta,-antagonist and 12 mg methyl-prednisolone daily to control her asthma.

This case supports the theory of partial adrenergic blockade or hyporesponsiveness of those receptors. While she had pheochromocytoma, her levels of catecholamines were enough to avoid asthmatic attacks. Subsequently, administration of a beta-selective blocking agent provoked an asthma attack, demonstrating the danger of these drugs when used in asthmatic patients.

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REFERENCES