Clinically significant air entrapment in bowel after percutaneous endoscopic gastrostomy under general anesthesia

Percutaneous endoscopic gastrostomy (PEG) is routinely performed under local anesthesia. General anesthesia is used in uncooperative patients or when some other procedures are planned simultaneously. In a prospective study,1 38% of patients developed radiologic pneumoperitoneum after PEG. However, severe air entrapment in bowel leading to respiratory distress after PEG has not been reported earlier.

A 53-year-old man, a case of carcinoma left lower alveolus, was posted for left hemimandibullectomy with radical neck dissection and pectoralis major flap reconstruction. PEG was also planned in the patient for postoperative enteral feeding. He had no significant chronic medical illness.

The inhalation anesthetic agent used was oxygen - nitrous oxide - isoflurane. After a successful PEG procedure resection of primary tumor was started. Total duration of surgery was five hours. Meanwhile gradual increase in peak airway pressure from 12-16 cm of water to 24-28 cm of water and abdominal distention was observed. Bronchospasm, mechanical obstruction of the endotracheal tube and circuit, and leakage from the closed circuit used for mechanical ventilation were ruled out. Pneumoperitoneum was suspected but no air was present on needle aspiration. Suction through the gastrostomy tube was also done, but the abdomen did not deflate. Placement of a flatus tube was tried but it was not possible because of an impacted fecolith. The patient’s hemodynamic parameters remained stable. At the end of surgery, he was reversed from neuromuscular blockade and was fully awake and oriented, but he required ventilatory support. Postoperative ultrasonography and X-ray confirmed distended bowel loops with no sign of perforation. An enema was given and flatus tube was placed. Air released from the bowel within the next six hours. The patient was gradually weaned off from the ventilator and discharged from the intensive care unit on the next day.

The factors that may have contributed to severe air entrapment in the bowel in this patient were: excessive use of air during endoscopic procedure, decreased intestinal motility during general anesthesia, and impacted fecolith. Many anesthetic and adjuvant drugs, such as morphine, diazepam, atropine and nitrous oxide, that were used in this patient might have led to decreased intestinal motility.2,3 The effects could have been mediated through drug action on the cardiovascular system leading to diminished perfusion and oxygen delivery to the viscera, or by altering the motor activity of the intestine.4

Thus, under general anesthesia, if excessive air is used for endoscopy, it may cause distended bowel loops leading to compromise in respiration.

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References

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Isolated tuberculosis of gastric cardia presenting as perforation peritonitis

Tuberculosis of the stomach is not common.1,2 It is usually associated with pulmonary tuberculosis or with immunodeficiency state.3 This is attributed to the bactericidal property of gastric acid, and intact gastric mucosa. Tuberculous lesions of the stomach are usually located on the lesser curvature of the antrum and often involve the duodenum.

A 32-year-old non-diabetic woman presented with epigastric pain, anorexia and significant weight loss for 6 months. There was no past history of tuberculosis. On examination she was febrile, anemic, severely malnourished, with generalized edema. There was no significant lymphadenopathy. Examination of the abdomen revealed guarding. X-ray chest, blood count, liver and renal function tests were normal except for hypoalbuminemia (1.5 g/dL). X-ray abdomen showed gas under the diaphragm.

At laparotomy, three liters of purulent fluid was sucked