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LETTER TO EDITOR

Different Preanesthetic Evaluation and Management Cause a Major Different Outcome in an Esophageal Achalasia Patient

Dear Editor,

Esophageal achalasia (EA) is an esophageal motility disorder involving the smooth muscle layer of the esophagus and the lower esophageal sphincter (LES).[1] It is characterized by incomplete LES relaxation, increased LES tone, and impaired peristalsis in the esophagus, resulting in regurgitation of undigested food.[2] Therefore, aspiration pneumonia occurs frequently in EA patients, especially those receiving emergency surgery. Here, we present the case of a patient with EA who received emergency surgery twice with different anesthesia plans, resulting in different outcomes.

The patient was a 77-year-old man (American Society of Anesthesiologists physical status III; height, 170 cm; weight, 70 kg) with EA and a Mallampati Class II airway.

He was admitted to the emergency department with an incarcerated inguinal hernia on the right side, requiring emergency hernioplasty. Preoperative radiography and computed tomography (CT) showed esophageal dilatation and a full stomach [Figure 1]. We planned to perform rapid-sequence induction (RSI) without mask ventilation using the Sellick maneuver for general anesthesia. There were large amounts of brown-colored secretions from the mouth immediately after changes in consciousness following propofol administration. Suctioning was performed in the head-down position, and an endotracheal tube was placed to protect the airway immediately. Fiberoptic bronchoscopy was achieved with a minimal aspiration of material. Nasogastric (NG) tube decompression enabled the drainage of about 1500 cc of gastric secretions. The surgery course was uneventful, with oxygen saturation around 96%–99%. The patient was sent to the intensive care unit for further care. Several hours later, the patient developed signs and symptoms suggestive of aspiration pneumonia. He made a full recovery after receiving antibiotic therapy and was discharged 2 weeks later.

Tracing back the patient's medical records, he sustained hollow organ perforation and underwent emergency exploratory laparotomy 2 years ago. Radiographs revealed dilation of the esophagus [Figure 2]. Endotracheal tube intubation general anesthesia was performed with awake bronchofiberscopy to prevent aspiration. No aspiration event was found following the surgery.

Yang *et al*.[3] suggested that patients with EA were maintained on a clear liquid diet for 48 h before the procedure, and clear liquids for 3–5 days were recommended for patients whose available preprocedural esophagogastroduodenoscopy revealed significant food retention in the esophagus. Anesthesia was induced using the RSI technique, where cricoid pressure was applied from the loss of eyelid reflexes until confirmation of correct endotracheal tube placement. No regurgitation or aspiration into the trachea was observed during anesthesia induction. This prospective single-center study demonstrated that endoscopic clearance of esophageal contents before anesthesia induction was not necessary to prevent aspiration. Darisetty *et al*.[4] reported a retrospective cohort study on 480 EA patients who received peroral endoscopic myotomy (POEM), with no occurrence of aspiration during or after POEM. A systematic review of 22 studies (including 1122 POEM

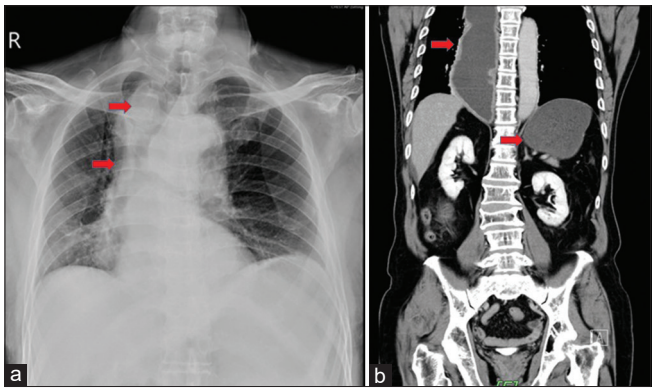

Figure 1: Preoperative (a) chest radiograph showing dilated esophagus (red arrow) and (b) abdominal computed tomography in the emergency room showing grossly dilated esophagus with food residue and full stomach (red arrow)

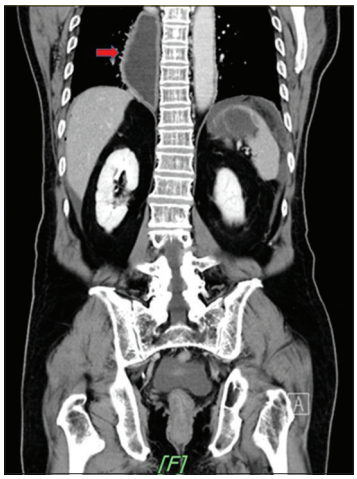

Figure 2: Abdominal computed tomography (2 years ago) showing grossly dilated esophagus (red arrow)

patients) by Patel *et al*.[5] reported that no patient suffered from aspiration pneumonia with appropriate presurgical preparation. However, many scholars suggest that aspiration pneumonia can be prevented during the induction of anesthesia by evacuating the retained contents in the esophagus just before anesthesia induction to avoid tracheal regurgitation and ensure safe anesthesia management in patients with EA.[6,7] Thus, the effective modalities in preventing aspiration include a well-prepared gastrointestinal tract (clear liquid diet), evacuation of the retained contents in the esophagus just before anesthesia induction, and RSI in patients with EA.

However, many cases with EA may need emergency surgery. Therefore, careful anesthesia evaluation is required for patients with no prior experience of anesthesia, as in our case. Chest radiography, chest CT, or abdominal ultrasound and medical and anesthetic records may be useful for anesthesia evaluation. Further, NG tube placement is suggested to evacuate any residual food in the esophagus before anesthesia induction. Awake fiberoptic intubation is also recommended for first anesthesia. Regional anesthesia is an alternative anesthetic technique for lower abdominal or lower limb secondary surgeries. Recording patient data in the medical information system and instructing the patient and family to alert the anesthesiologist before anesthesia are strongly recommended.

In conclusion, careful preanesthetic evaluation and preparation are needed in EA patients receiving emergency surgery to prevent aspiration. Awake fiberoptic intubation might be used in the patients at greatest risk of aspiration.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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