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IMAGES IN PULMONARY, CRITICAL CARE, SLEEP MEDICINE AND THE SCIENCES

Bronchotracheal Compression Caused by Esophageal Impaction after Bilateral Lung Transplantation

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A 65-year-old woman with end-stage chronic obstructive pulmonary disease underwent an initially uncomplicated bilateral lung transplantation. She developed severe gastroparesis, and gastroscopic nasoduodenal tube placement showed a prepyloric ulcer (Figure 1). In addition, a gastric tube was placed to monitor the degree of gastric retentions, and feeding was solely given duodenally. To improve gastric motility, metoclopramide was prescribed. After several days, the gastroparesis seemed to resolve, and oral intake was resumed. However, ICU readmission was needed after 13 days owing to hypercapnic respiratory insufficiency with a presumed multifactorial etiology (atelectasis, sputum stasis, exhaustion, persisting pneumothorax, and a unilateral diaphragm paresis). Three weeks after transplantation, the patient was reintubated owing to increasing hypercapnia. A thoracic computed tomographic scan



Figure 1. Gastroscopy 9 days after transplantation showing a prepyloric ulceration.

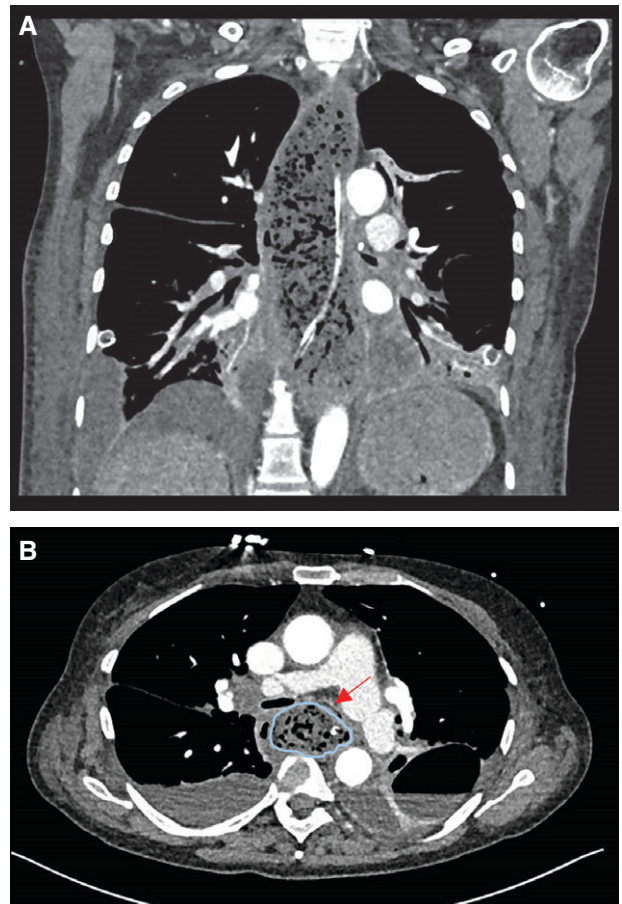


Figure 2. Thoracic computed tomographic images revealing esophageal impaction and bronchotracheal compression 26 days after transplantation. (A) Coronal image showing the extent of esophageal impaction. (B) Transverse image showing bronchial obstruction caused by the esophageal mass effect. The red arrow indicates the compressed left main bronchus. The blue circle indicates esophageal impaction.

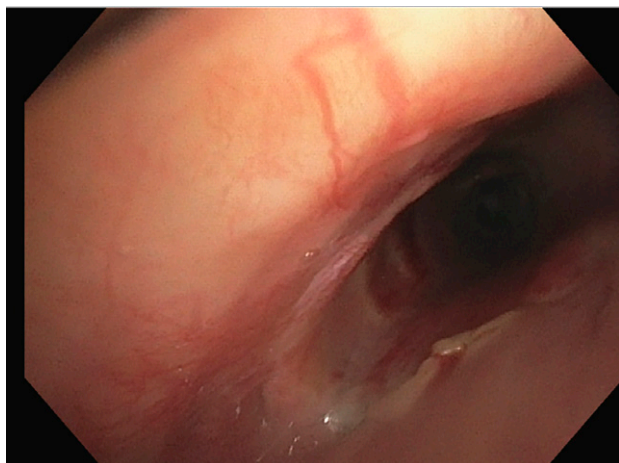


Figure 3. Bronchoscopy image showing the mass effect of the impacted esophagus on the interior of left main bronchus.

revealed gastric and esophageal impaction with distension and compression of the trachea and left main bronchus (Figure 2), confirmed by bronchoscopy (Figure 3). Active lavage of the esophagus and stomach was performed, and gastroscopy showed that the prepyloric ulcer had increased in size. Bronchoscopy was repeated owing to lack of improvement, and a large fistula between trachea and esophagus was found. Owing to lack of therapeutic options, palliative sedation was started, and the patient passed away the following day. Postmortem showed extensive esophageal ulceration and necrosis of the esophageal wall with mediastinitis and fistula to the left main bronchus. Delayed gastric emptying and esophageal dysmotility are common following lung transplantation (1, 2); however, this rarely leads to esophageal perforation and fistula. In this case, we propose that this delayed gastric emptying was exacerbated by the presence of a prepyloric ulcer, which resulted in severe gastric and esophageal impaction after reinitiation of enteral feeding. Timely recognition was hampered by apparent patient tolerance to enteral feeding, which was initiated when gastric retentions, routinely checked by aspiration through the gastric

tube, were not evident. This could have been caused by solidified gastric contents, which could not be aspirated, and thus led to severe underestimation of gastric retentions. To our knowledge, these images present a unique insight into the dire consequences of esophageal and gastric dysmotility after lung transplantation. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

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