Outside the scope of our practice: an unexpected thoracoscopy and pleurocentesis during gastroscopy

A 56-year-old man described 2 weeks of regurgitation of ingested liquids, dyspnea, and chest pain. He had undergone laparoscopic esophagectomy with cervical anastomosis 1 year previously for esophageal adenocarcinoma; this had been complicated by a stricture at the esophagogastric anastomosis that required serial endoscopic dilations. Shortly after admission, a computed tomography (CT) scan demonstrated a dilated, fluid-filled intrathoracic stomach. There was obstruction to the passage of oral contrast at the level of the intrathoracic duodenum, and a left-sided pleural effusion was seen (Fig. 1).

At gastroscopy, 1L of fluid was aspirated from the intrathoracic stomach. There was an angulated deformity of the intrathoracic junction of the first and second part of the duodenum in association with a perforated ulcer on the posterior duodenal wall (Fig. 2a). The gastroscope was inserted through this perforation and into the left pleural space, from which 2L of turbid fluid were aspirated (Fig. 2b). Fibrinopurulent exudate (Fig. 2c) was seen on the surfaces of the lung and dia-

Fig. 1  Computed tomography (CT) scan showing the dilated, fluid-filled intrathoracic stomach and a left-sided pleural effusion.

Fig. 2  Endoscopic views showing: a perforated ulcer in the posterior wall of the intrathoracic first part of the duodenum; b turbid fluid in the pleural space; c fibrinopurulent exudate in the pleural space; d the left lung, diaphragm, and pleural space as visualized during the gastroscopy; e sterile saline lavage of the pleural space being performed.
phragm (Fig. 2d; Video 1). The pleural cavity was lavaged with sterile saline (Fig. 2e). A percutaneous pleural drain and a nasogastric tube were then inserted. The perforation was closed at thoracotomy and a transdiaphragmatic omental patch was mobilized to cover the defect. The patient was discharged 2 weeks after admission.

Intrathoracic leakages are well described post-esophagectomy [1, 2], as well as post-gastrectomy [3], usually due to breakdown of the anastomosis. In this unusual case, perforation occurred 1 year post-operatively through an ulcer in the intrathoracic duodenum, such that the pleural space was accessible with a gastroscope, which therefore enabled pleurocentesis and lavage to be performed. While therapeutic insertion of flexible endoscopes into the pleural space via percutaneous drainage tubes has been described [4], we report the first case in the literature where this has occurred via the upper gastrointestinal tract.

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References

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Video 1
This video taken during gastroscopy begins with views of the left pleural space containing turbid fluid and fibrinopurulent exudate. At time 0:28, the gastroscope is withdrawn through the perforated duodenal ulcer back into the intrathoracic stomach, before being re-inserted into the pleural space at 1:00.