

## Biliary stenting of an iatrogenic esophageal perforation following corrosive esophagitis in a 5-year-old child

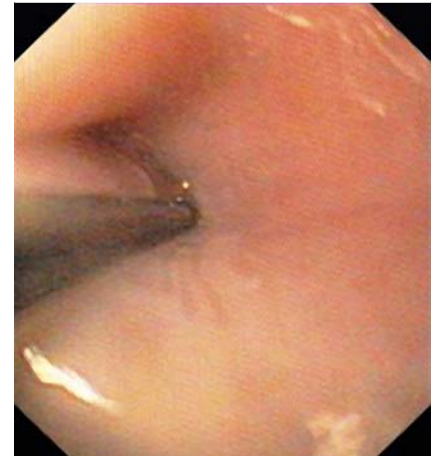
Most esophageal perforations are iatrogenic in origin (0.01%–55%) [1–3], and traumatic defects are still associated with high mortality, ranging between 12% and 50% [4]. Clinically, early identification and treatment of the problem is necessary, but guidelines for effective management have not been established.

A 5-year-old girl developed high-grade corrosive esophagitis after ingesting a caustic solution (● Fig. 1). This resulted in the formation of a long esophageal stricture, which was causing severe dysphagia. Three and a half months after the incident, the stricture, which could not be passed with a 5.9-mm gastroscop (GIF-XP 160, Olympus, Tokyo, Japan) (● Fig. 2) was dilated with a balloon to 6 mm; 48 hours later the patient developed septic mediastinitis because of a perforation. A computed tomography (CT) scan showed leakage of contrast in the right pleural cavity, approximately 4 cm above the cardia (● Fig. 3). Owing to a lack of pediatric treatment options for severe sepsis in combination with a pronounced esophageal stricture, the perforation was sealed with a partially covered biliary stent (Niti-S biliary stent, size 10 × 80 × 70 mm, Taewoong Medical Co. Ltd., Gyeonggi-go, South Korea) (● Fig. 4). Two and a half months later, the patient underwent esophageal resection and reconstruction with colon interposition, and the stent was removed intraoperatively. The post-operative complication of an anastomotic stricture at 14 cm was successfully treated with balloon dilatation.

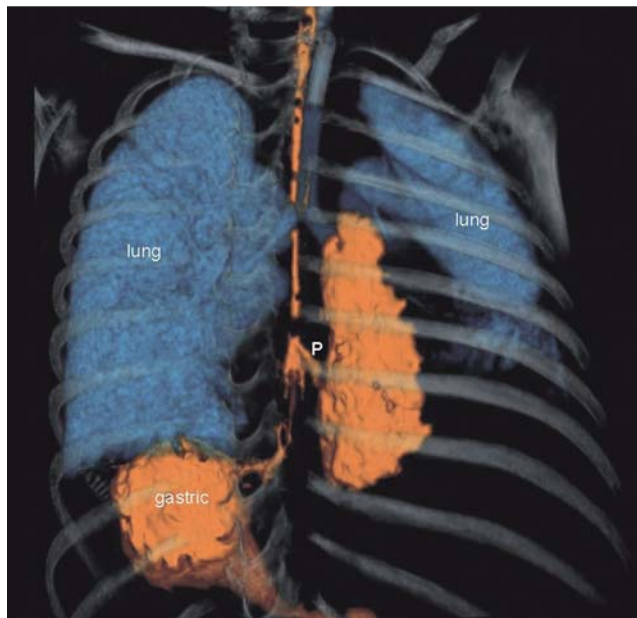
Corrosive esophagitis with stricture formation is a severe complication of caustic solution ingestion [5]. The state-of-the-art treatment is endoscopic dilatation or bougienation, which itself is associated with a high risk of perforation. In our case, the complication led us to consider an unusual treatment, since a long stenosis in a small child cannot be treated with conventional stenting. We were able to seal



**Fig. 1** Third-degree burn: esophagitis after ingestion of a caustic solution.



**Fig. 2** The stricture with an endoscopically placed guide wire before balloon dilatation.

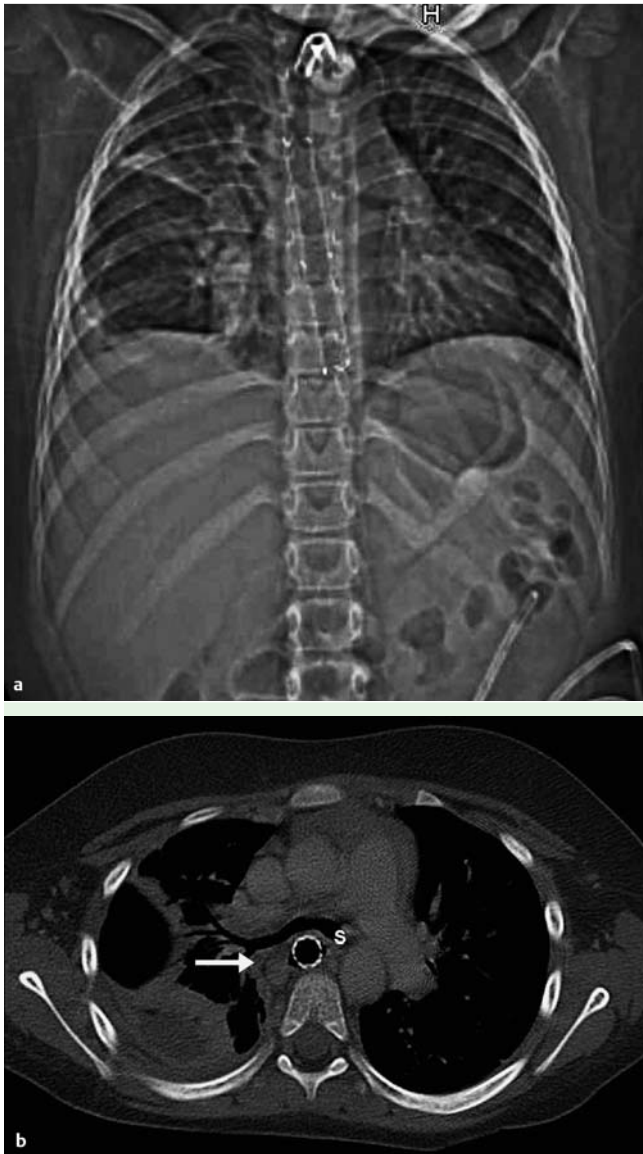


**Fig. 3** Chest computed tomography three-dimensional reconstruction showing the esophageal perforation (P).

the perforation with a biliary stent, which allowed the esophagus to function until definitive repair could be attempted as primary repair was not possible.

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**Fig. 4** a Chest radiograph showing the final position of the stent. b Computed tomographic scan of the esophagus showing the final position of the stent (S); fluid is visible in the paraesophageal space (arrow).

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