Novel, double-lumen removable stent to treat caustic esophageal stenosis

Recurrent esophageal stenosis following caustic injury may be difficult to treat. A tube stent developed at our institution [1] can be used as an alternative to repetitive endoscopic esophageal stricture dilation. The case of a boy with severe larynx and esophageal caustic injury at the age of 2 years is reported here.

Endoscopy (Fig. 1 a) and radiography (Fig. 2 a) performed 3 weeks after the accident showed esophageal stenosis. Within the subsequent 4 months, the patient underwent six endoscopic esophageal Savary–Gillard bougienage dilation procedures (up to 7–9 mm) under radiographic control (Fig. 2 b) without long-term restoration of the esophageal lumen. At 5 months, esophageal stenosis was still present (Fig. 1 b) and the patient tolerated only a liquid diet. Thus, the patient underwent implantation of a double-lumen, variable-diameter, perforated nasogastric tube stent (Fig. 3) under radiographic control (Fig. 2 c).

Tolerability of the tube was satisfactory. The patient accepted the proximal end of the tube extending from the nose, tolerated a semiliquid diet, and gained weight without the need for additional gastric tube feeding (Fig. 4).

The tube was removed after 5 months, and endoscopy showed restoration of the esophageal lumen (Fig. 1 c). At 6 months after tube stent removal, the patient tolerated a normal diet and gained weight (Fig. 4). Radiography showed no esophageal stenosis (Fig. 2 d), and endoscopy revealed rigidity and cicatrization of the esophageal wall.
esophageal wall with no difficulty in passing the endoscope (● Fig. 1d).
The presented case shows that providing long-term artificial support to prevent narrowing of the esophageal lumen can restore the function of the esophagus and eliminate the need for repeated esophageal dilation. A similar approach has been described in the literature [2–5]. However, to the best of our knowledge, none of the devices used by other authors are commercially available.

Competing interests: None

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Fig. 4 Changes in the patient’s body weight during phases of therapy: endoscopic dilation, tube stent therapy, and post-treatment follow-up.

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