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. 1a) and radiography (Fig. 2a) 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. 2b) without long-term restoration of the esophageal lumen. At 5 months, esophageal stenosis was still present (Fig. 1b) 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. 2c).

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. 1c). At 6 months after tube stent removal, the patient tolerated a normal diet and gained weight (Fig. 4). Radiography showed no esophageal stenosis (Fig. 2d), and endoscopy revealed rigidity and cicatrization of the esophageal wall was observed with no difficulty in passing the endoscope.
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

References

Corresponding author
Marek Woynarowski, MD, PhD
Department of Gastroenterology Hepatology and Feeding Disorders
Children’s Memorial Health Institute
Al. Dzieci Polskich 20
04-730 Warsaw
Poland
Fax: +48-22-8157382
m.woynarowski@czd.pl

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Bibliography

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