Combined percutaneous retrograde and peroral antegrade esophagoscopy for the treatment of complete upper esophageal obstruction

Complete upper esophageal obstruction is a rare but significant complication of, for example, radiotherapy or caustic ingestion. It may be resolved by endoscopic techniques [1–4]. Here, we report three patients with complete or nearly complete upper esophageal obstruction after curative radiochemotherapy for head and neck cancers, in whom classic peroral insertion of a guidewire for esophageal dilation failed. However, in all of these patients, esophageal stenosis was successfully treated by the combination of a percutaneous retrograde and a peroral antegrade endoscopic approach.

The length of the stenoses in these patients ranged from 2 to 20 mm (► Fig. 1). Retrograde esophagoscopy was accomplished with an ultraslim gastroscope through an existing percutaneous gastrostomy. At the same time, peroral antegrade esophagoscopy was performed to enable diaphanoscopy-guided recanalization of the esophageal stenosis with a needle knife (► Fig. 1, ► Video 1). Afterward, a stomach tube was placed, and the reconstructed esophageal neolumen was allowed to heal for 2 to 4 weeks.

Subsequently, the patients have undergone conventional esophageal dilation procedures, which have been ongoing for 4 to 24 months (► Fig. 1). Meanwhile, all the patients can be nourished orally and have experienced a significant increase in

body weight and improvement in quality of life. No relevant complications have been observed in these patients during the entire course of endoscopic treatment.

In conclusion, the combination of a percutaneous retrograde and a peroral antegrade endoscopic approach can be safe and efficient for the treatment of complete upper esophageal stenosis.

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Video 1

Recanalization of a long, complete upper esophageal stenosis by a combined peroral antegrade and percutaneous retrograde endoscopic approach.

Fig. 1 Complete upper esophageal stenosis in patient No. 3 after radiotherapy for head and neck cancer. **a** Endoscopic view during peroral antegrade access. **b** Combined peroral antegrade and percutaneous retrograde esophagoscopy before esophageal recanalization with a needle knife. **c** After esophageal recanalization with a needle knife. **d** Recanalized esophageal stenosis after a subsequent conventional dilation program, which has been ongoing for 4 months.