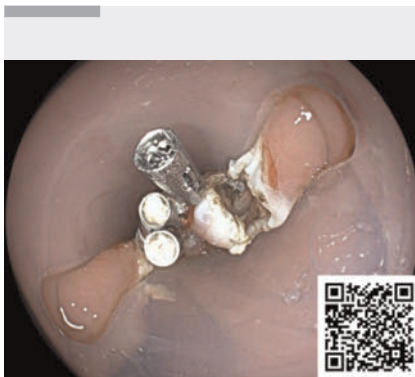


A double-incision endoscopic myotomy of the cricopharyngeal muscle for the management of a large hemi-circumferential Zenker's diverticulum



► **Fig. 1** Endoscopic images showing: **a** a large hemi-circumferential Zenker's diverticulum located 18 cm from the incisors and centered at 9 o'clock; **b** a 0.035-inch guidewire placed to guide a Zenker's overtube toward the diverticulum; **c** isolation of the muscular septum of the Zenker's diverticulum; **d** the remnant posterior component of the Zenker's diverticulum following completion of the first myotomy; **e** complete flattening of the Zenker's diverticulum following completion of a second myotomy and clip closure.



► **Video 1** A double-incision Zenker's myotomy is performed for the management of a large hemi-circumferential Zenker's diverticulum.

An 81-year-old man with a decade-long history of dysphagia to solids presented to our hospital in extremis. He had lost 20 pounds in weight over 7 months, and more recently had been unable to tolerate clear fluids. A gastroscopy, barium swallow, and computed tomography scan revealed a large hemi-circumferential Zenker's diverticulum, located 18 cm from the incisors and centered at 9 o'clock (► **Fig. 1 a**), with minimal passage of contrast into the esophageal lumen observed.

Owing to a long muscular septum, we proceeded to perform a double-incision endoscopic dissection of the cricopharyngeal muscle (► **Video 1**). Zenker's diverticulum peroral endoscopic myotomy (zPOEM) was not considered because of the potential need for two tunnels. After the diverticulum had been thoroughly cleaned, a 0.035-inch guidewire was placed into the stomach (► **Fig. 1 b**). This was used to guide placement of a Zenker's overtube (ZDO-22-30; Cook Medical, Bloomington, Indiana, USA) into the diverticulum to isolate the muscular septum (► **Fig. 1 c**). A complete myotomy of the cricopharyngeal muscle was performed with a precut needle-knife (Zimmon knife; Cook Medical). After clip closure, re-evaluation revealed that the posterior component of the diverticulum remained prominent (► **Fig. 1 d**) and there was still resistance to passage of the endoscope into the esophagus. The Zenker's overtube was reinserted, isolating the remnant muscular septum. A second complete myotomy of the cricopharyngeal muscle was performed, followed again by clip closure. Subsequently to this, there was flattening of entire diverticulum and easy passage of the gastroscopy into the esophagus (► **Fig. 1 e**). Over the next few days, the patient's dys-

phagia to liquids and solids completely resolved.

Flexible endoscopic dissection of the cricopharyngeal muscle is well established as a safe and effective treatment option for a symptomatic Zenker's diverticulum [1]. Our novel double-incision myotomy enabled complete flattening of a large hemi-circumferential diverticulum. In our experience, the use of a Zenker's overtube aided exposure of the remnant septal bridge and facilitated the second myotomy. Further studies pertaining to the clinical outcomes of this approach are required.

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Conflict of Interest

J. D. Mosko is a speaker for Boston Scientific, Pendopharm, Medtronic and Fuji. He has received honoraria/consulting fees from Boston Scientific, Pendopharm, Medtronic, and Fuji. G. May has received consulting fees from Olympus Canada. S. Gupta, T. He, N. S. Causada Calo and C. Teshima declare that they have no conflict of interest.

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