

Submucosal tunneling endoscopic resection of a symptomatic leiomyoma in the proximal esophagus

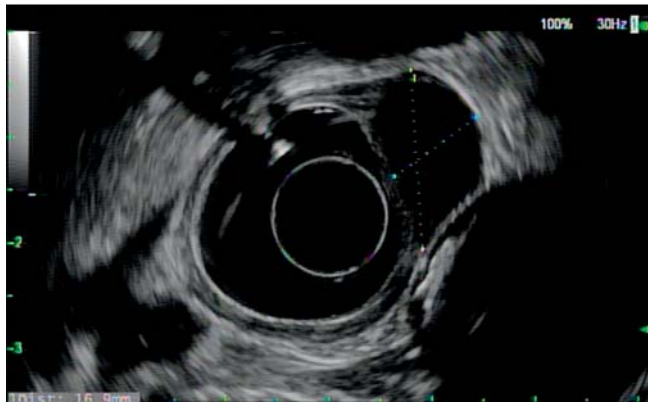
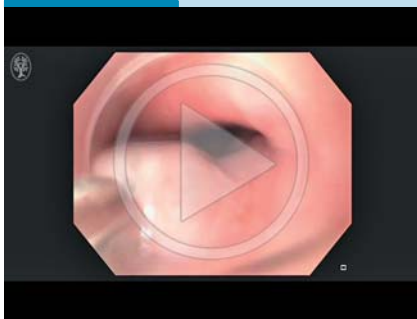


Fig. 1 Proximity of an esophageal subepithelial leiomyoma to the aorta in a 71-year-old woman with dysphagia and weight loss, seen on radial endoscopic ultrasound.

Video 1



Submucosal tunneling with endoscopic resection of an esophageal subepithelial leiomyoma.

A 71-year-old woman with hypertension, dyslipidemia, and diverticulosis presented with a 1-year history of dysphagia and an unintentional weight loss of 6 lb (2.7 kg). An upper endoscopy was performed, which revealed a subepithelial lesion in the proximal esophagus. Endoscopic ultrasound demonstrated a 1.7×1-cm hypoechoic lesion in the muscularis propria layer, near the aorta (● **Fig. 1**). The results of fine-needle aspiration were consistent with a leiomyoma. Given the presence of symptoms and the proximity of the leiomyoma to the aorta, resection of the tumor was pursued using a submucosal tunneling endoscopic resection technique. A submucosal bleb of 0.9% saline and methylene blue was made 5 cm proximal to the esophageal leiomyoma (● **Video 1**). A mucosal incision was created to facilitate entry into the submucosal space. Using a multipurpose knife (Erbe Elektromedizin,

Tuebingen, Germany), the submucosal space was dissected using intermittent injection and dissection. Any visible blood vessels were treated. Submucosal tunneling was performed to expose the leiomyoma. Careful dissection continued to expose more of the lesion. During the dissection, a large feeding blood vessel was identified and treated with coagulation grasper forceps (Olympus America, Center Valley, Pennsylvania, USA). Dissection of the muscle fibers around the lesion was carried out with an insulated-tip knife (Olympus) in order to free the leiomyoma. A net (Boston Scientific, Natick, Massachusetts, USA) was used to retrieve the lesion en bloc. The specimen was pinned on cork and sent for pathological examination. The mucosal incision site was closed with one endoscopic suture. A swallow study carried out on postoperative day 1 showed passage of contrast into the stomach with no evidence of leakage. The patient was discharged home on postoperative day 1. The pathology investigation identified interlacing bundles of smooth muscle cells, which tested positive for smooth muscle actin and desmin. The margins showed complete resection of the esophageal leiomyoma.

At 1-month follow-up, the patient noted an improvement in dysphagia symptoms and no further unintentional weight loss. Esophageal leiomyomas are benign submucosal tumors originating from the muscularis propria layer of the esophagus that appear as well-defined, hypoechoic lesions on endosonography [1]. The most

common presenting symptoms of these submucosal tumors are dysphagia or chest pain [2]. Resection is indicated for tumors that cause symptoms. Submucosal tunneling endoscopic resection is a minimally invasive, safe, and effective technique for en bloc resection of a symptomatic esophageal leiomyoma in the proximal esophagus without the need for surgical excision.

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