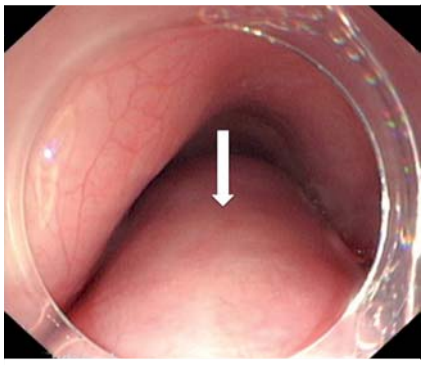
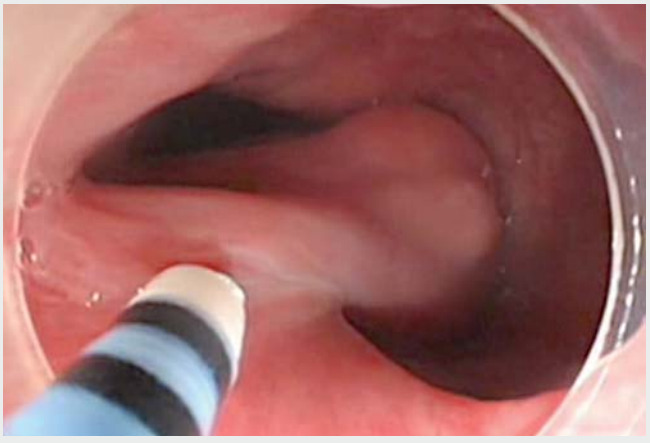
# Endoscopic submucosal dissection of a huge esophageal atypical lipomatous tumor (well-differentiated liposarcoma) with a 4-year recurrence-free survival

A 35-year-old man complained of dull pain after food intake. His medical history and findings from physical examinations and laboratory tests were unremarkable. Standard esophagogastroduodenoscopy revealed a huge mass in the cervical esophagus. On endoscopy, the sausage-like pedunculated tumor protruded into the lumen (▶ **Fig. 1**). Chest computed tomography (CT) scan showed a large mass that was well-circumscribed, intraluminal, and heterogeneous (fatty density in the upper section and parenchymal density in the lower part) (▶ **Fig. 2**). The mass was located between the T1 to T8 levels and connected to the posterior wall of the esophagus.

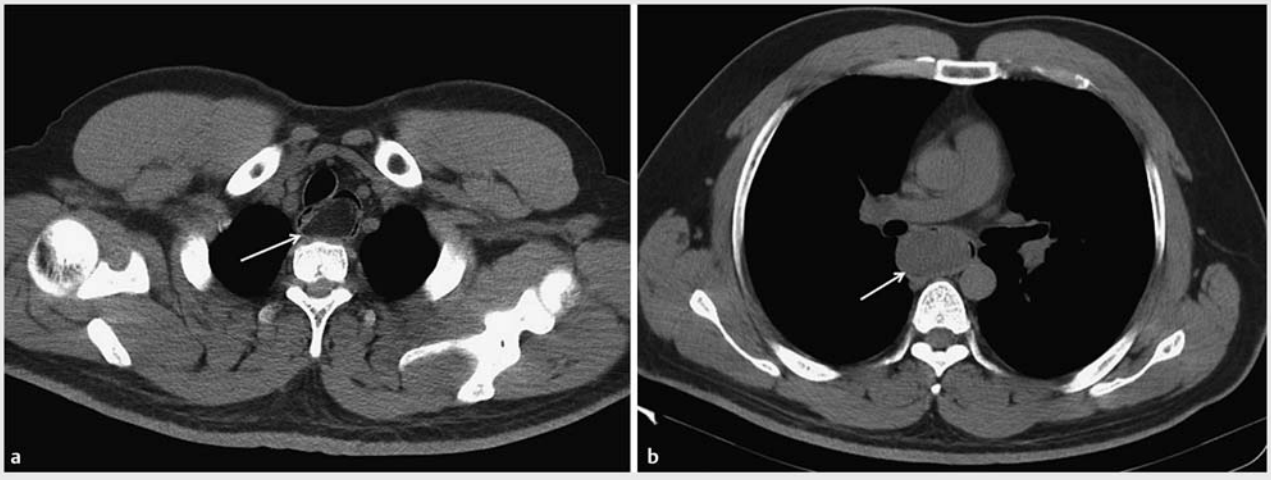
Endoscopic submucosal dissection (ESD) was performed successfully to treat this patient (▶ **Fig. 3**, ▶ **Video 1**). The submucosal injection and initial mucosal incision (▶ **Fig. 3 b**) were done at the base of the mass, 18 cm from the incisors, using a Hybrid Knife (I-type; Erbe, Tübingen,



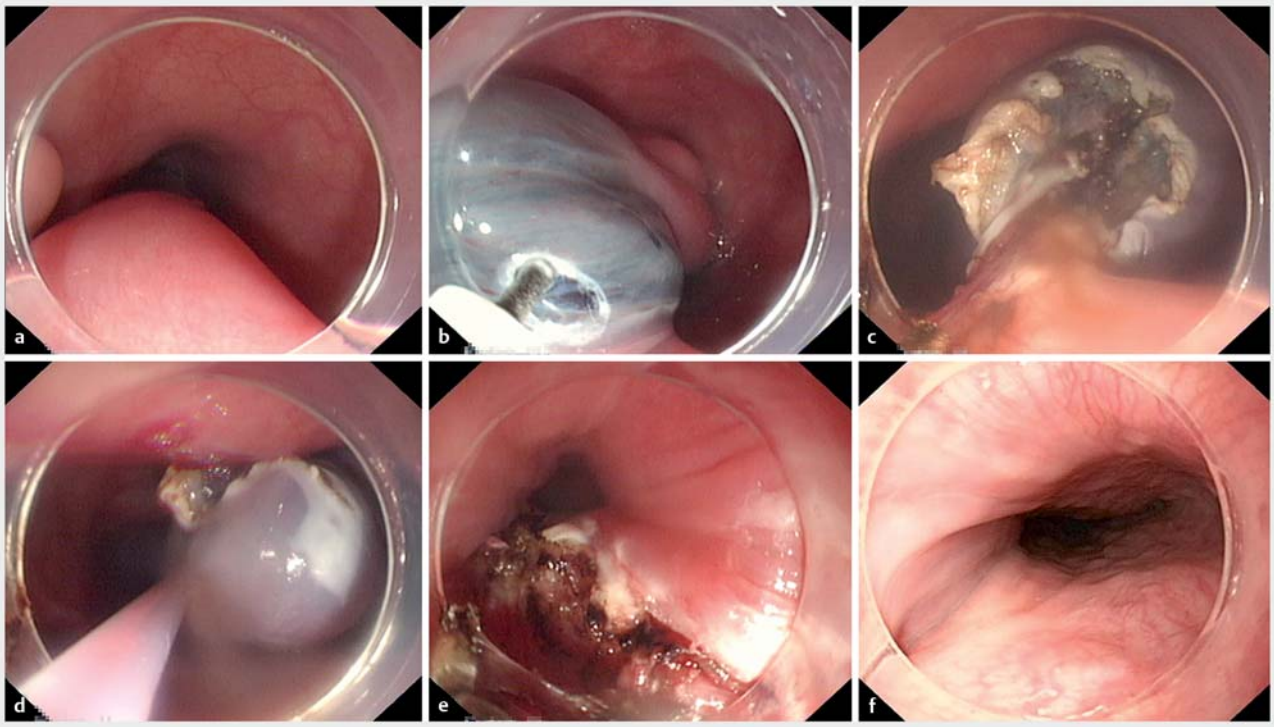
▶ **Fig. 1** Endoscopic view of a huge mass (arrow) in the cervical esophagus of a 35-year-old man who complained of dull pain after food intake.



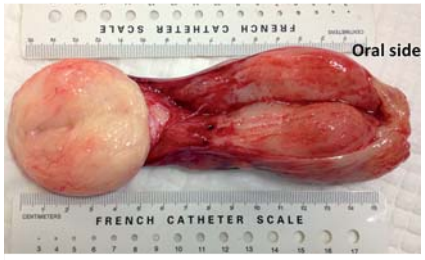
**Video 1** Endoscopic submucosal dissection of a huge esophageal atypical lipomatous tumor (well-differentiated liposarcoma) in a 35-year-old man.




▶ **Fig. 2** Computed tomography (CT) scan showed a large, well-circumscribed, intraluminal, heterogeneous mass located in the posterior wall of the esophagus between the T1 to T8 levels. **a** Fatty density (arrow) in the upper section of the mass. **b** Parenchymal density (arrow) in the lower part of the mass.




▶ **Fig. 3** The endoscopic submucosal dissection (ESD) procedure. **a** Endoscopic view of the huge submucosal tumor. **b** Submucosal injection and mucosal incision at the base of the submucosal tumor. **c** Resection of the submucosal tumor. **d** Removal of the submucosal tumor with a snare. **e** The wound after hemostasis. **f** Endoscopic view of the esophagus after 3 months follow-up with no residual tumor or recurrence.




▶ **Fig. 4** Macroscopic appearance of the huge esophageal submucosal tumor.

Germany). Then submucosal dissection was performed from the oral side to anal side after complete incision of the huge mass (▶ **Fig. 3 c**), while submucosal injections were frequently repeated to secure an appropriate lifting of the mucosal layer from the muscle layer. En bloc resection was achieved by ESD technique, then a snare (SD-230U-20, Olympus) was used to retrieve the resected specimen (▶ **Fig. 3 d**), all visible exposed vessels on the wound were coagulated by hemostatic forceps (FD-410LR, Olympus) (▶ **Fig. 3 e**).

The resected tumor was 16.0 × 5.5 × 4.0 cm in size and 124 g in weight (▶ **Fig. 4**). Pathological examination, confirmed by immunohistochemical staining, indicated the tumor was an atypical lipomatous tumor (also termed "well-differentiated liposarcoma") (▶ **Fig. 5**). The postoperative period was uneventful and the patient was discharged on postoperative day 2.

The patient was scheduled for the first endoscopic follow-up 3 months later (▶ **Fig. 3 f**), and annually thereafter. After 4 years, there has been no evidence of any residual tumor or recurrence. This case presents a successful attempt to treat an esophageal atypical lipomatous tumor by ESD with a 4-year disease-free and recurrence-free survival.

Atypical lipomatous tumors (well-differentiated liposarcomas) are very rare in the esophagus. Fewer than 20 cases have been reported [1] with the dominant location being the cervical esophagus. Reported methods of treatment included transthoracic esophagectomy, transoral resection, thoracoscopic esophagectomy or even total esophagectomy. The predominant type of the tumor in the esophagus was polypoid and seldom transmural [1]. This provides a good chance for endoscopic removal of the tumor. Since this type is a low grade malignant mesenchymal neoplasm with a high propensity to local recurrence and the potential to dedifferentiate to higher grades over time [2], long-term follow-up is warranted for this case.

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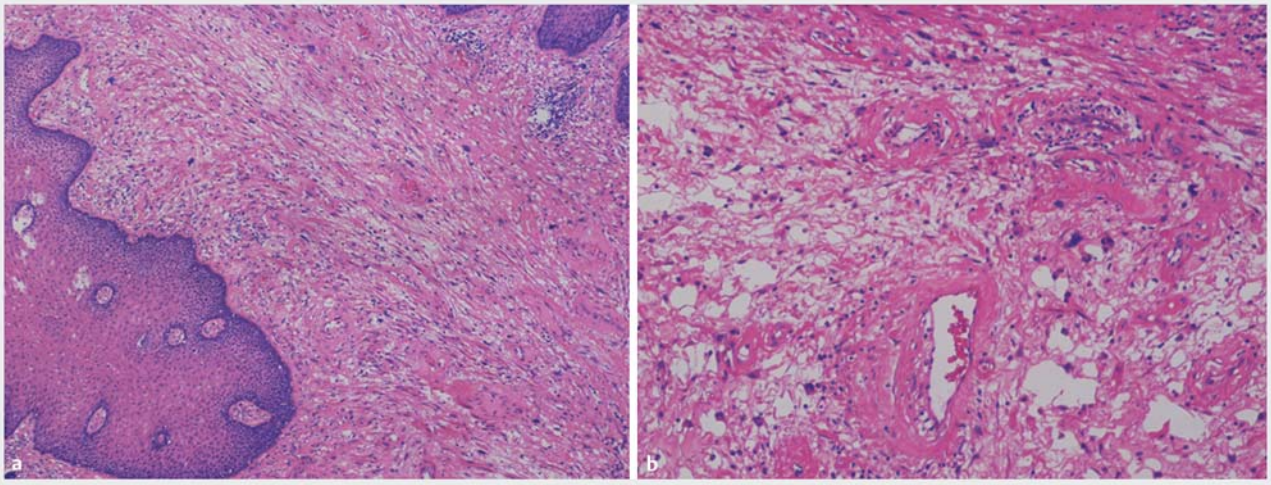
## Competing interests

There is no conflict of interest to declare for Drs. Ping-Hong Zhou, Ming-Yan Cai, and Jia-Xin Xu.



▶ **Fig. 5** Pathologic evaluation of the resected tumor. **a** The tumor was covered by normal squamous epithelium. **b** Histologically, the tumor was composed of a well-differentiated lipomatous component adjacent to scattered bizarre spindle cells (hematoxylin–eosin stain).

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