Huge pedunculate esophageal submucosal tumor resected under endoscopy with peduncle ligation

Esophageal submucosal tumors can be treated by endoscopic resection [1–3]. However, resection of large submucosal tumors is difficult due to the narrow cavity of the esophagus. Here, we present a case of huge pedunculate esophageal submucosal tumor resected under endoscopy with innovative peduncle ligation.

A 29-year-old man presented with a history of progressive dysphagia for 1 year and moderate fever for 1 week; he was admitted to the hospital. Esophagogastroduodenoscopy showed a huge pedunculate esophageal submucosal tumor with partial erosion on the surface. The root of the peduncle was located in the anterior wall at 20 cm from the incisors (Fig. 1). Computed tomography showed a huge intraluminal mass (5.6 × 4.4 × 14.7 cm) (Fig. 2). After multidisciplinary team discussion, endoscopic resection was considered.

A 0 PDS II suture (Johnson & Johnson, New Brunswick, New Jersey, USA) was brought into the esophageal cavity through the gastroscope (Olympus GIF Q260 J; Olympus, Tokyo, Japan) and placed around the peduncle. A knot was tied in vitro and pushed into the esophageal cavity using a laparoscopic knot pusher. The root of the peduncle was ligated by three sutures and then resected using a HookKnife (Olympus) between the ligations. The specimen could not be retrieved through the mouth and was instead pushed into the stomach. The tumor was removed by incision of the stomach through a single-port laparoscope (Fig. 3, Video 1). The patient resumed a liquid diet 3 days after surgery and body temperature returned to normal.

Fig. 1 Esophagogastroduodenoscopy showed a huge pedunculate submucosal tumor in the esophagus. a The root of the peduncle. b The body of the tumor. c Partial erosion on the surface of the tumor (retroflexed endoscopic view).

Fig. 2 Computed tomography scan showed a huge (5.6 × 4.4 × 14.7 cm) intraluminal mass (arrows) in the esophagus.
Histopathology revealed spindle cell tumor, without mitosis (Fig. 4). Immunohistochemistry showed Dog (–), Desmin (partial +), Actin (partial +), CD117 (–), S-100 (–). A diagnosis of inflammatory fibrous polyp was made.

No residual or recurrent tumor was found and wound healing was satisfactory at surveillance endoscopy after 3 months.

Peduncle ligation provides a new approach to the endoscopic resection of pedunculate submucosal tumors in the esophagus.

Endoscopy_UCTN_Code_TTT_1AO_2AG

Acknowledgments

This study was supported by National Key Clinical Discipline and the Sixth Affiliated Hospital of Sun Yat-sen University Clinical Research 1010 Program (grant numbers 1010PY(2020)-63).

Funding

National Key Clinical Discipline; the Sixth Affiliated Hospital of Sun Yat-sen University Clinical Research 1010 Program 1010PY(2020)-63

Competing interests

The authors declare that they have no conflict of interest.

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Endoscopy
DOI 10.1055/a-1662-3738
ISSN 0013-726X
published online 2022
© 2022. Thieme. All rights reserved.
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