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Endoscopic Resection of a Giant Esophageal Lipoma Causing Sudden Choking
Dong Ho Jo*, Hyung Ku Chon*, Sun Ho Woo, and Tae Hyeon Kim
Department of Internal Medicine, Wonkwang University College of Medicine, Iksan, Korea

Most esophageal lipomas are discovered incidentally and are small and asymptomatic. However, large (> 4 cm) lipomas may cause various symptoms, including dysphagia, regurgitation, or epigastric discomfort. We present a 45-year-old woman with intermittent sudden choking and globus pharyngeus. A thoracic computed tomography scan revealed a fat attenuated longitudinal mass along the upper esophagus, suggestive of a lipoma. Endoscopic resection of the lesion was performed with a detachable snare to relieve her symptoms, and the pathologic findings were consistent with a lipoma. (Korean J Gastroenterol 2016;68:210-213)

Key Words: Esophagus; Lipoma; Endoscopy

INTRODUCTION

Lipomas are uncommon benign tumors of well-differentiated adipose tissue that can be found anywhere in the alimentary tract.\(^1\) Esophageal lipomas are reported to comprise less than 1% of all digestive tract benign neoplasms.\(^2\) Most esophageal lipomas are small, asymptomatic, and incidentally detected during endoscopic or radiologic evaluation of the esophagus. Rarely, esophageal lipomas may be large and those more than 4 cm in size can cause symptoms such as dysphagia, odynophagia, and regurgitation. Here, we present an unusual case of a huge pedunculated esophageal lipoma in the upper esophagus with recurrent upper airway obstruction that was successfully treated via endoscopic resection with a detachable snare.

CASE REPORT

A 45-year-old woman was admitted to our department with globus pharyngeus of one month duration. She complained of intermittent choking with a sensation of a pharyngeal mass after an episode of strong vomiting or coughing, following which her choking symptoms quickly subsided. She had no previous medical history. The results of a physical examination, laboratory studies, chest radiography, and electrocardiography were unremarkable.

Upper gastrointestinal endoscopy revealed a 10 cm, yellowish, pedunculated and elongated sausage-like sub-epi-
The esophageal tumor, occupying one third of the esophageal lumen and located 22 cm away from the incisors (Fig. 1A). The lesion had a smooth bulge with normal overlying mucosa (Fig. 1B). A “pillow sign” was detected by pushing the biopsy forceps into the soft tumor, leaving an indentation. A thoracic CT scan demonstrated an intraluminal longitudinal mass with fat attenuation, approximately 10 cm wide, along the upper esophagus (Fig. 2A). No regional lymph node abnormalities were noted. EUS revealed a hyperechoic lesion arising from the third wall layer of the esophagus, starting immediately below the upper esophageal sphincter (Fig. 2B). The findings on imaging studies were consistent with an esophageal lipoma. One year prior, the patient underwent an upper gastrointestinal endoscopy through the national health screening program in our hospital and there was no abnormal finding. Therefore, we thought that her symptoms were caused by this new lesion.

Endoscopic resection was performed with a detachable snare after a submucosal injection of saline, methylene blue, and epinephrine (Fig. 3). The 10.0×1.5 cm lesion was suc-

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**Fig. 1.** (A) Endoscopic images showing a pedunculated sub-epithelial tumor with a large pedicle covered with normal mucosa originating in the cervical esophagus (arrow). (B) Positive “pillow sign” and the yellowish, smooth mucosal surface are visible.

**Fig. 2.** (A) Thoracic computed tomography scan showing a longitudinal mass with fat density (arrow), elongated approximately 8 cm along the upper esophagus. (B) Endoscopic ultrasound showing a hyperechoic lesion with a smooth margin arising from the submucosal layer of the esophagus (arrowheads).

**Fig. 3.** (A) The placement of a detachable snare around the thick stalk of the esophageal subepithelial tumor. (B) Resection defect after removal of the subepithelial tumor using the standard diathermy snare.
cessfully retrieved. An endoclip was applied to close the re-
section defect.

Gross examination of the specimen showed a well-circum-
scribed encapsulated mass, about 10.0×1.5 cm in size, and
the cut surface was yellow and soft, consistent with a lipoma
(Fig. 4A). Histologic examination revealed mature adipose
tissue cell clusters compatible with lipoma (Fig. 4B). No com-
plications occurred during and after the procedure. The pa-
tient recovered uneventfully and was discharged four days
later. After the removal of a huge pedunculated esophageal
lipoma, the patient’s symptoms of globus pharyngeus and in-
termittent choking disappeared, and other studies were
unremarkable. Therefore, we are assured that the main cul-
prit of her symptoms was a huge pedunculated esophageal
lipoma. The patient remained asymptomatic at an exam two
months later.

DISCUSSION

Esophageal lipomas are usually discovered incidentally
and are small and asymptomatic. However, there may be
symptoms of regurgitation, dysphagia, odynophagia, and re-
current melena, depending on the tumor size and location.
When lipomas are at clinically significant locations, they usu-
ally cause obstructive symptoms. A pedunculated lipoma
with a long pedicle in the cervical esophagus can cause sud-
den choking, because regurgitation of the mass into the larynx
may cause airway obstruction secondary to the mechanical
pressure, similar to that observed in this case. This might be
fatal. Several cases of death from asphyxia because of aspi-
rated esophageal lipomatous lesions have been reported.3,4

As esophageal lipomas are composed of adipose tissue
and fat, they have a characteristic appearance on images
that distinguishes them from other benign or malignant
neoplasms. On endoscopy, esophageal lipomas have a yel-
lowish smooth surface with a “tent sign” (easy mucosal re-
tractability over the lipoma with biopsy forceps) and a
“cushion sign” (pressing forceps against the lesion results in
a depression).1 In contrast, malignant neoplasms are hard,
irregular, and ulcerated with friable mucosa.

On CT, esophageal lipomas present as a well-defined ho-
mogenous mass with fat density, dissimilar from leiomyomas
that are intramural tumors with soft tissue density and lip-
osoarcomas that show a heterogeneous mass with septation
and soft tissue density.5,6 On EUS, lipomas appear as hyper-
echoic, homogenous lesions with smooth outer margins,
arising in the submucosal layer, whereas liposarcomas ap-
pear heterogeneous with areas of increased echogenicity,
corresponding to areas of fat.7

Surgery and endoscopic removal are the available treat-
ments for esophageal lipoma. Surgical resection is recom-
mended if endoscopic treatment fails or the lesion is larger
than 4 cm.8 Endoscopic removal of giant esophageal lipomas
is technically difficult owing to their vascular nature, perfo-
rati on risk, and size, and only a few case reports have been
published.9 Although the esophageal lipoma in our patient
was more than 4 cm, we decided to perform endoscopic re-
moval instead of surgery. Proper application of a detachable snare in pedunculated lesion can reduce complications such as bleeding or perforation. Endoscopic removal is more cost-effective, and the risk of post-operative morbidity should be considered with surgical methods. In our case, a detachable snare was placed onto the base of the thick stalk. The giant pedunculated esophageal lipoma was successfully removed with a standard snare and electrosurgical coagulating current. When we use a detachable snare, proper tightening of the ligature is the cornerstone of the procedure. If the ligature is too tight, the lipoma can be transected and precipitate bleeding or if the ligature is too loose, the detachable snare is ineffective in preventing bleeding. To the best of our knowledge, this is the first case report of a huge pedunculated esophageal lipoma successfully treated by endoscopic resection with detachable snare.

In our experience, endoscopic resection with a detachable snare may be a feasible and safe treatment strategy for giant pedunculated esophageal lipomas.

REFERENCES