

## CASE REPORT

# Successful endoscopic removal of a giant upper esophageal inflammatory fibrous polyp

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## Abstract

Giant esophageal inflammatory fibrous polyp (especially > 17 cm in size) is seen rarely. Endoscopic removal has been reported rarely because the procedure is technically demanding and the hemostasis is difficult to ascertain. Here, we describe a case of a giant upper esophageal inflammatory fibrous polyp that was resected successfully by endoscopy.

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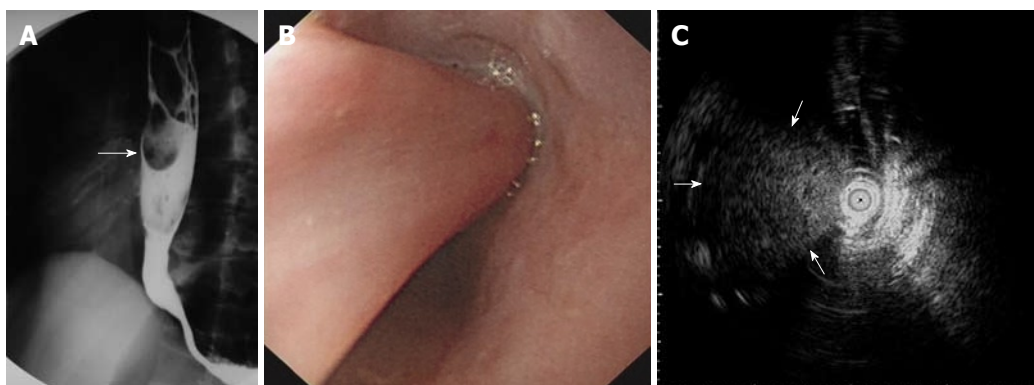
## INTRODUCTION

Giant esophageal inflammatory fibrous polyp (especially > 17 cm in size) is seen rarely<sup>[1]</sup>. Surgical excision is usually advised<sup>[2-5]</sup>. Endoscopic removal has been reported rarely<sup>[6]</sup> because the procedure is technically demanding and hemostasis is difficult to ascertain. Here, we described a giant upper esophageal inflammatory fibrous polyp that was resected successfully by endoscopy.

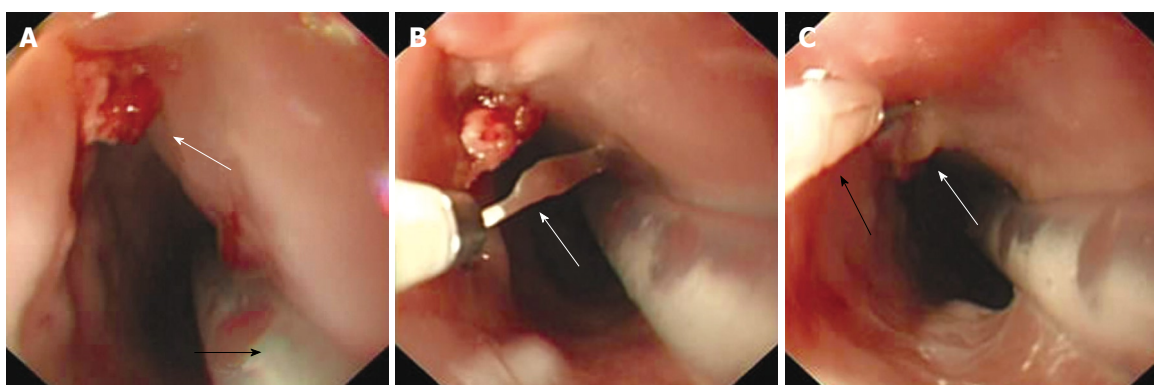
## CASE REPORT

A 50-year-old man presented to our hospital with a 6-mo history of progressive difficulty in swallowing, initially, solid and then liquid food for the past 2 mo. Physical examination and blood tests, including coagulation parameters, were normal. Barium swallow revealed a 17-cm polypoid filling defect inside the esophagus that moved with deglutition (Figure 1). Contrast thoracic computed tomography (CT) revealed a localized isodense upper esophageal lesion, which was free from the lower part of the esophagus. The esophageal wall was intact and there was no evidence of infiltration into adjacent organs or any mediastinal lymphadenopathy. Gastroscopy showed a giant polyp with smooth overlying mucosa, extending from 18 to 35 cm (measured from the incisors), and endoscopic ultrasonography (EUS) revealed well-distributed, low-echo-level lesions at the root of the polyp, excluding echoless lumen-like structures (no large blood vessels inside the lesions) (Figure 1). Therefore, the esophageal polyp was a benign lesion. Endoscopic removal of the polyp with an electrosurgical snare was attempted, using the ICC 200 (ERBE, Tübingen, Germany). The procedure was performed under general anesthesia with elective intubation and airway protection. Equipment for hemostasis, including hemoclips, Coagrasper, injection needle and adrenaline for injection was prepared before the procedure.

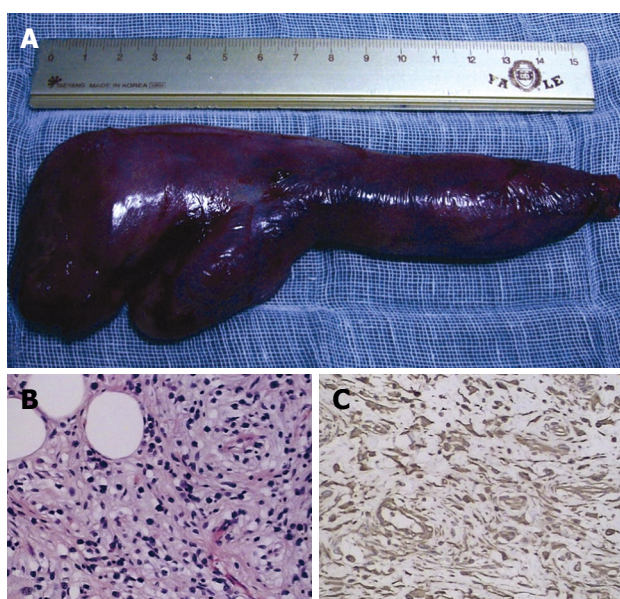
Firstly, we inserted a detachable loop of appropriate stiffness and size through the biopsy channel. Then, the detachable loop was placed from the base to the neck of the esophageal polyp. The loop was closed gradually and the polyp was lifted away from the esophageal wall. Polypectomy was performed and air was inflated to distend the esophagus. The setting of the electrosurgical units was as follows: COAG mode (effect 350 W) was first applied for 2 s, so that the small blood vessels over



**Figure 1 Imaging of esophageal polyp.** A: Barium swallow showed a giant esophageal polyp (arrow), which was free from the middle and lower esophageal wall; B: Gastroscopy showed the polyp with smooth overlying mucosa (at 18 cm from the incisors); C: EUS revealed well-distributed, low-echo-level lesions at root of the polyp (white arrows), excluding echoless lumen-like structures.



**Figure 2 Esophageal polyp removal.** A: Residual polyp (white arrow) after polypectomy at the left wall of the esophagus (18 cm from incisor). A nasogastric tube (black arrow) used for suction (size 16 Fr) was placed over the right wall of the esophagus; B: Hemoclips (white arrow) were applied to the residual polyp; C: After application of the hemoclips (black arrow) to the residual polyp (white arrow).



**Figure 3 Polypectomy specimen and its pathology.** A: The resected esophageal lesion measured 17 cm in length, and the neck, body and tail of the lesion measured 1, 3 and 5 cm, respectively; B: HE staining (original magnification,  $\times 200$ ) showed the presence of lots of fibroblasts, with some acidophilic cells, plasma cells and adipose cells; C: Immunostaining (original magnification,  $\times 200$ ) for vimentin showed strong staining of the cells.

the mucosa were coagulated. Then, we employed the endo-cut mode (effect 380 W) to CUT. Near the end of polypectomy, COAG mode was resumed to minimize bleeding from the central blood vessel. Adequate air insufflation and distension of the esophagus minimized the risk of burning and esophageal perforation. Only minor bleeding was noted at the polypectomy site. The hemostasis was achieved securely with 1:10 000 adrenaline injection and application of two hemoclips over the polypectomy site (Figure 2).

In addition, a 16-Fr nasogastric tube was placed to remove all the blood and gastric fluid during the procedure (Figure 2). If the esophageal polyp failed to be removed or there was any complication, an on-site thoracic surgeon assessed the patient urgently for operation.

The resected esophageal polyp specimen (Figure 3) was retrieved with the snare and sent to the pathology laboratory for pathological examination. Hematoxylin and eosin (HE) staining of the removed esophageal specimen showed the presence of lots of fibroblasts, with some adipocytes, plasma cells and acidophilic cells (Figure 3). Immunostaining revealed CD 117 (-), CD 34 (-), S-100 (-), desmin (-), actin (-), cytokeratin (-), HMB45 (-) and vimentin (+) (Figure 3). The histological diagnosis was

inflammatory fibrous polyp. The patient remained well and was discharged 1 wk after the procedure. Follow-up gastroscopy 4 wk later was normal.

## DISCUSSION

Inflammatory fibrous polyp, also known as inflammatory pseudotumor, is a benign intraluminal tumor that consists of a mixture of inflamed fibrous, granulation tissue and lipomatous elements, which is covered by normal squamous epithelium<sup>[7]</sup>. Giant esophageal inflammatory fibrous polyp (especially > 17 cm in size) is seen rarely<sup>[1,8]</sup>. The presenting symptoms of dysphagia and sensation of a mass in esophageal inflammatory fibrous polyp are the same as in other esophageal tumors (such as leiomyoma and gastrointestinal stromal tumor), unless there is development of regurgitation of the polyp through the mouth or asphyxiation<sup>[9]</sup>. Some cases may stay asymptomatic or with heartburn for a long time<sup>[10,11]</sup>. Inflammatory fibroid polyps should be considered in the differential diagnosis of submucosal and polypoid esophageal masses, although distinctive radiographic features are not found<sup>[12]</sup>. Usually, the diagnosis is made by imaging or endoscopic studies. Barium-enhanced contrast of the esophagus usually shows a sausage-shaped mass with multiple filling defects, which originates in the cervical esophagus and extends to the lower esophagus<sup>[10]</sup>. Endoscopy usually shows an intraluminal mass that is mobile and covered with normal mucosa. Careful examination of the upper esophageal sphincter may reveal the stalk of the pedunculated mass. It is not difficult to distinguish esophageal inflammatory fibrous polyp from leiomyoma, which is usually relatively flat, and non-pedunculated intramural lesions in the middle and lower third of the esophagus<sup>[13]</sup>. EUS has been reported as a method to demonstrate the submucosal origin of analagous polyps<sup>[14,15]</sup>.

As a result of its special origin, there may be uncontrollable bleeding during endoscopic resection. Endoscopic removal of giant upper esophageal lesions requires thorough assessment before the procedure. Therefore, multiple modalities (barium, CT, EUS and gastroscopy) are important to delineate the nature and origin of the lesion. EUS provides information on the diameter of the polyp as well as its vascularity and insertion point<sup>[6]</sup>. Special precautions during hemostasis and elective airway protection are necessary to prevent bleeding and aspiration. The placement of the nasogastric tube, adequate insufflation and distension of the esophagus can minimize the risk of burning and esophageal perforation. The site of snare polypectomy should be kept away from the base of stalk to prevent esophageal perforation. Advances in the techniques of endoscopic treatment and the improvement

of endoscopic accessories make endoscopic removal of giant esophageal polyps feasible. Post-polypectomy hemostasis can be achieved with adrenaline injection and hemoclips. If hemostasis fails, one can use Coagrasper to coagulate even a small area of bleeding.

In conclusion, with thorough assessment with multiple imaging modalities, and the availability of good endoscopic accessories, giant upper esophageal inflammatory fibrous polyp can be resected by endoscopy safely and successfully.

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