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# Endoscopic Diverticulectomy For a Large Zenkera Esophageal Diverticula: A Case Report

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## Abstract

Here we report a 95-years-old woman presenting with a chronic history of frequent cough, dysphagia for solids and later difficulty in swallowing fluids along with decreased appetite and weight loss from 6 months ago who diagnosed with large Zenker diverticula. According to the patient's age and general condition, the surgeon consultation considered her as inoperable so an endoscopic diverticulectomy performed as a therapeutic option by using flexible endoscope under deep sedation and the patient discharged from hospital 5 days after procedure.

**Keywords**

Esophageal• Zenker's Diverticulum• Endoscopic Diverticulectomy

## Introduction

Traditionally surgical resection has been the optimal treatment of esophageal (Zenker) diverticula over the past century [1]. Developments in minimally invasive surgery and new endoscopic devices have led to a paradigm change. Nowadays, Zenker's Diverticulum can be treated by flexible endoscopy as a quick and safe technique [2,3]. Employee performance is a mutual perception, ability, and effort for tasks. Organizational objectives can be achieved due to good performance. Although, more efforts are required for enhancement of organizational performance. Employees' commitment improves the organizational competitiveness and employees' performance [2].

## Materials and Methods

A 95-years-old woman presenting with a chronic history of frequent cough, dysphagia for solids and later difficulty in swallowing fluids along with decreased appetite and weight loss from 6 months ago. The primary diagnosis was food impaction and the upper gastrointestinal endoscopy was performed for several times while oesophageal lumen was not visible and couple of endoscopists reported esophagus as blind loop full of food remnants [3]. We supposed these reposts compatible with diverticula. A barium swallow requested, but the patient was so disabled and unable to do it. So at first the food remnant exsect by a basket, then after several attempts, the entrance of esophagus found beside large inlet of diverticula (figure 1) [4]. According to the patient's age and general condition, the surgeon consultation considered her as inoperable and offered a surgical gastrostomy. So an endoscopic diverticulectomy planed as a therapeutic option for the management of patient's problem. Endoscopic Zenker diverticulotomy was done using flexible endoscope under deep sedation. At first a guide wire passed into the stomach (figure 2), and a NG tube inserted to keep the lumen of esophagus open (figure 3). Then the cricopharyngeal muscle and septate between diverticula and esophagus cut with knife (figures 4 and 5) and 4 hemoclips deployed in the site of diverticulectomy and hemostasis achieved (figure 6). Both the procedure and the postoperative course were free of complications. The patient kept NPO for 72 [5] then she permitted to swallow water and the day after, she start to eat. 5 days after procedure, she discharged with improvement of general condition.

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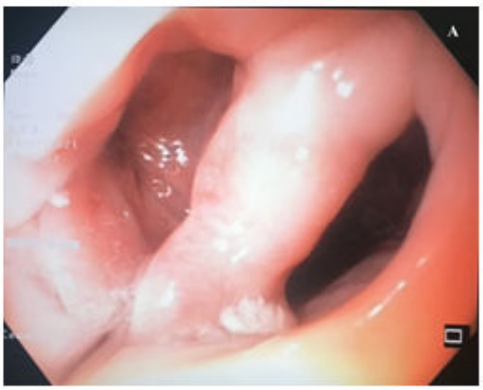


**Figure 1:** Entrance of esophagus beside large diverticula

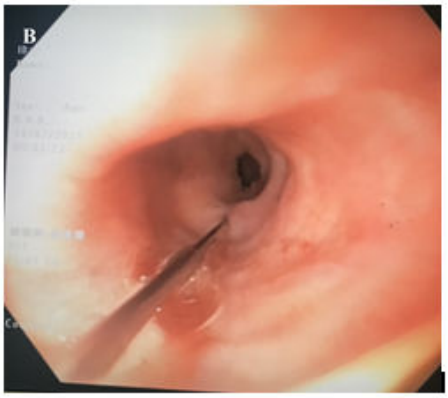
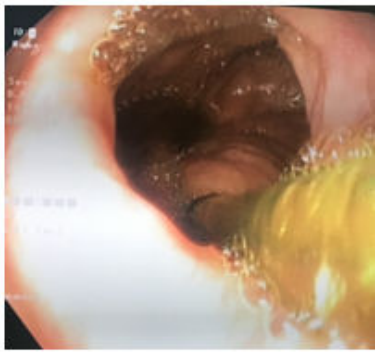


**Figure 2:** Guide wire insertion into the esophagus



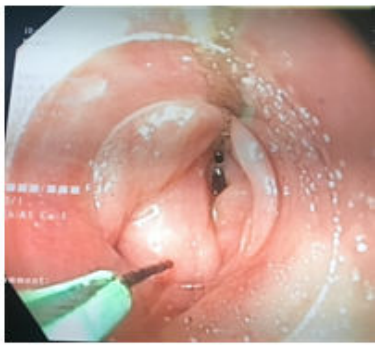
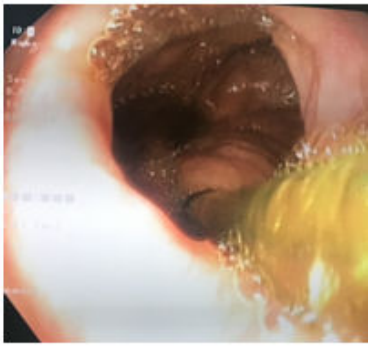


**Figure 3:** NG tube placement to keep the lumen of esophagus open



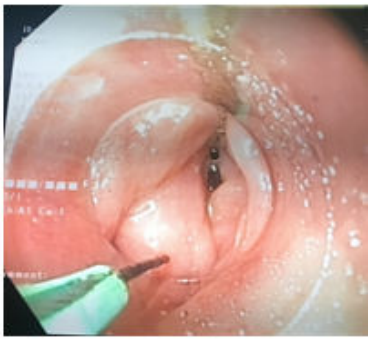
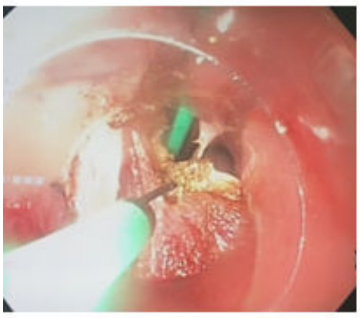


**Figure 4:** cutting of cricopharyngeal muscle and septate between diverticula and esophagus with needle knife



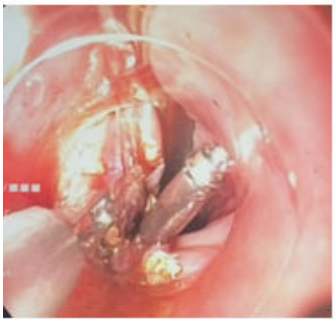
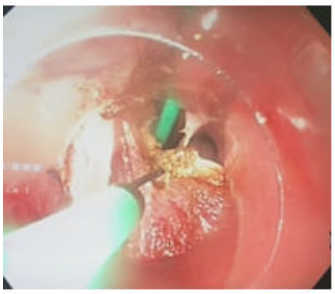


**Figure 5:** cutting of cricopharyngeal muscle and septate between diverticula and esophagus with needle knife



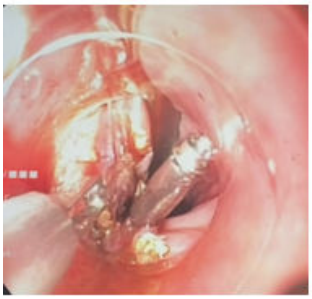


**Figure 6:** hemoclips deployed in the site of diverticulectomy.

## Results and Discussions

Zenker's Diverticulum (ZD) as a rare condition usually manifests in seventh or eighth decade of life and diagnose with gastroscopy and barium swallow study which is useful in defining the size and dimensions of the diverticulum [4,5]. Over the last decades, Endoscopic treatment of symptomatic ZD has been established as a safe and effective treatment option with fewer morbidities as compared to surgery. Endoscopic methods include rigid and flexible endoscopic division of septum. The rigid transoral approach requires the placement of a rigid diverticuloscope and division of the cricopharyngeal septum by using knife or a stapling device. The major limitations of rigid endoscopy include requirement of general anesthesia and relative contraindication in those with limited cervical spine mobility. For the same reason, Flexible Endoscopy increasingly being preferred over rigid endoscopy techniques [6]. Endoscopic procedure requires a high definition flexible endoscope, electrosurgical knife, coagulation forceps, guidewire, and nasogastric tube. The use of diverticuloscope for stabilization of the septum is optional and depends on the operator's experiance. The division of cricopharyngeal septum is performed by an electrosurgical knife. Different knives include needle knife, hook knife, scissor type knives, and triangular knife, among them, needle knife and hook knife are the most commonly utilized [7].

The procedure can be performed under deep sedation using propofol. The steps include cleansing of the diverticulum of all the food debris then insertion of a NG tube to keep the esophageal lumen open. Then the septum cut by using a needle knife and after division of the muscle fibers at the bottom of the septum, one or more endoclips would place at the base of the cut end of septum to prevent bleeding or perforation [8]. The success rate of this procedure is about 80 to 90% with rare complications including bleeding or perforation [5]. Based on our knowledge, our case was the first endoscopic diverticulectomy in south west of Iran and an inoperable patient because of extreme old age, discharged form hospital with a good condition and able to eat and drink 5 days after the procedure.

## Conclusion

Endoscopic diverticulectomy is a safe and practical option for management of Zenker Diverticulum especially among those who have several co-morbities and are high risk for surgery.

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