

A Unique Technique of Removal of Esophageal Foreign Body: Using Urological Dormia Basket

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Abstract: Esophageal foreign body impaction is a common finding in patients operated for trachea-esophageal fistula. It occurs mainly due to stricture occurring at the anastomotic site. A 4 year old girl with dysphagia having been operated for primary trachea-esophageal fistula repair, underwent esophagoscopy, which revealed a foreign body. As a foreign body removing forceps was not available with us, it was removed in a very unique and ingenious way.

Keywords: foreign body, urological dormia basket, esophagoscopy, trachea-esophageal fistula

INTRODUCTION

Foreign body impaction in esophagus is a common occurrence in patients operated for trachea-esophageal fistula repair. It occurs either due to a stricture at the anastomotic site or due to a diverticulum proximal to it. Here we describe a case where we removed such a foreign body using a urological Dormia basket as the esophageal foreign body removing forceps was not available with us.

CASE REPORT

A 4 year old female came to us with complaints of dysphagia to solids, but no difficulty in swallowing liquids. She was operated for primary repair of trachea-esophageal fistula in neonatal life. There was no history of similar complaints in the past. There was no history of repeated episodes of lower respiratory tract infections. There was no other operative history.

A barium swallow study was done which showed narrowing at the level of anastomotic site. Chest radiograph was normal. All other routine investigations were normal.

The patient was posted for esophagoscopy. On esophagoscopy, the patient was noted to have a narrowing at the level of esophageal anastomosis and a spherical foreign body approximately 1-1.5cm in diameter was seen impacted. It seemed to be the seed of Indian jujube fruit. As a foreign body removing forceps was not available with us, we tried to remove the foreign body with the help of biopsy forceps. But a firm grip could not be obtained on the object, resulting in repeated slipping of the object out of the forceps. It was decided to use the urological dormia basket to try and remove the foreign body. The length of the instrument however, was found to be too short as compared to the length of the gastroscope.

Therefore, an innovative method was devised to remove the foreign body. An infant feeding tube with its tip cut was inserted by the side of the gastroscope (Fig. 1). The urological dormia basket was inserted into the infant feeding tube (IFT) and while looking through the camera of the gastroscope, the foreign body was removed along with the scope (Fig 2,3).



Fig-1: Gastroscope as well as Urological Dormia basket through IFT inserted into esophagus



Fig-2: Foreign body held in Dormia basket



Fig-3: Foreign body removed with Dormia basket inserted through IFT

The patient was started orals same evening and dysphagia was relieved. She was discharged and called for regular follow-up.

DISCUSSION

A surgically repaired esophagus in neonatal life often leads to several respiratory and gastrointestinal problems later in life like dysphagia, reflux esophagitis, post-operative anastomotic stricture, recurrent bronchitis and pneumonia [1].

Dysphagia after trachea-esophageal fistula repair may be caused by disordered peristalsis in repaired esophageal segment or due to post-operative anastomotic stricture [2]. Esophageal dysmotility results in dysphagia persisting for many years, whereas dysphagia resulting from anastomotic stricture develops in the years immediately after surgery. The abnormal peristalsis may result from damage to vagal branches during upper pouch mobilization or due to abnormal development of esophageal myenteric plexus [3]. These children also often suffer from recurrent bronchitis, persistent cough and pneumonia [4].

Foreign body impaction in children generally involves common household items such as coins, toys, jewelry, magnets and batteries. Foodstuff impaction is rare. It may present with stridor, throat pain, chest pain, abdominal pain, fever, refusal to feed and respiratory distress. In cases of food impaction, modalities of management include use of glucagon to relax the lower esophageal sphincter and hasten spontaneous clearance, use of bougie dilator to advance a distally impacted food bolus, and endoscopic removal [5].

Endoscopic removal of a spherical object is best done with the help of a Dormia basket. The basket, initially designed in 1961 by Italian Urologist Enrico Dormia, has been modified for endoscopic use. Unfortunately, it was not available with us at that time. Hence, we devised a different method to remove the foreign body, as described above. Only one other case has been reported where a similar technique was used to remove an esophageal foreign body [6]. It is difficult to maneuver the basket by the side of the gastroscop through the infant feeding tube, but it is a very effective alternative.

CONCLUSION

The use of a urological Dormia basket in combination with a gastroscope is a very effective alternative in situations where foreign body removing forceps is not available.

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