Abstract:
Dentures are one of the common accidentally ingested foreign bodies and esophagus is one of the common site of impaction in the gastrointestinal tract. Retainment and impaction can cause esophageal perforation and other dangerous complications. 31 years male presented with history of dysphagia, choking, loss of weight and recurrent respiratory infections. He accidentally swallowed a plastic denture 7 years back and was initially symptom free and now symptomatic for the past 2 years. Investigations done confirmed the presence of denture in the mid esophagus and revealed associated esophagobronchial fistula. Since the foreign body has been retained for a long time and endoscopic retraction can cause esophageal tear, we decided to proceed with operative exploration. Chest cavity entered through Left posterolateral thoracotomy. Esophagotomy done and impacted FB removed. Esophagotomy site closed in 2 layers. Lt bronchial defect was not repaired because of dense adhesions in the hilar region. Post operatively patient lung function improved and was tolerating normal diet. He was discharged and he is on regular followup. High index of suspicion, appropriate investigations and optimum surgery are the key elements in the management of complicated foreign body.

INTRODUCTION:
Accidental foreign body (FB) ingestion is a common problem in clinical practice. Once a FB has been swallowed beyond the cricopharyngeus,
it frequently remains in the oesophagus as it has weak peristalsis and multiple anatomical narrowings. About one third of foreign bodies retained in the gastrointestinal tract are present in the esophagus. Dentures are one of the common accidentally ingested foreign bodies. Because of their large size and pointed edges, they get frequently impacted and cause high morbidity and mortality. Retainment and impaction can cause esophageal wall necrosis, perforation and other dangerous complications. Here we present Successful Management of one such Chronic retained denture in the Esophagus With Esophago bronchial Fistula

CASE HISTORY:
31 years male presented with history of progressive dysphagia for 1 year. He also had history of cough & choking episodes while drinking. He was also suffering from recurrent respiratory infections for the past 2 years. He had loss of weight more than 18 kg in the last 2 years. On evaluation, He had history of accidental ingestion of plastic denture while drinking water-7 yrs back. Initially he had mild dysphagia for which he contacted local doctor who advised him to take plenty of water & bananas. His symptoms improved and he was on normal diet till 2 yrs back. For the past 2 yrs he is suffering from recurrent respiratory infections.

CLINICAL EXAMINATION:
On examination, Patient was moderately built and ill nourished. Cardiovascular examination was normal. Respiratory system examination revealed normal air entry on both sides, but coarse crepitations was present in both lung bases. Abdominal examination revealed normal findings.

INVESTIGATIONS:
UGI Scopy done showed 2 fistulous openings in the esophagus at the level of 25 cm from the incisor teeth (Fig 2). Denture was seen at 27 cm. (Fig 1)

Figure 2: UGI Scopy - Esophagobronchial fistula
Bronchoscopy showed presence of denture in Lt. main bronchus along with extrusion of thick mucus through the Lt. bronchial opening. (Fig 3)

Figure 3: Bronchoscopy - Denture in Lt. main bronchus with mucus extrusion
Barium swallow also confirmed the presence of Esophago-bronchial Fistula (Fig 4)
Figure 4: Barium Swallow Esphagobronchial fistula
Plain CT chest done initially showed inflammatory changes in left lobe (Fig 5). Contrast CT Chest showed 2.7 cm linear foreign body bridging the mid esophagus and proximal left main bronchus (Fig. 6) and the contrast was seen in the left main bronchus (Fig 7). Esophageal & Lt. bronchial wall thickening was present. There were features of aspiration pneumonitis in the left lower lobe. Reconstructed flims showed better definition of the fistula site. (Fig 8, 9)

Figure 7: CECT-Contrast in Left main bronchus

Figure 5: Plain CT Chest. Inflammatory changes in Lt. lobe

Figure 6: CECT-Contrast coating the foreign body

Figure 8: Plain CT chest with reconstruction showing the fistula site

Figure 9: CECT with reconstruction showing the fistula

MANAGEMENT:
Since the foreign body has been retained in the esophagus for a long time with impaction and associated bronchoesophageal fistula we decided to
proceed with surgical exploration. Patient nutritional status improved by placing a nasogastric tube under fluoroscopic guidance for feeding purpose. Vigorous chest physiotherapy given with incentive spirometry.

**SURGERY** Surgery was done under general anesthesia with one lung ventilation. Patient was placed in Left Lateral position. Left postero-lateral thoracotomy made. There was no pleural effusion. There were dense adhesions in the region of Hilum. Foreign body was found impacted in mid thoracic esophagus. After noting the above findings, the adhesions were released. Aorta and esophagus dissected and individually taped. Esophagotomy done and impacted FB removed. (Fig 10, 11)

**DISCUSSION:**

In recent years with an increase in the denture wearing population, there is also an increase in the incidence of accidental swallowing of dentures. Once ingested they may become impacted anywhere in the Gastro-Intestinal tract. One third of foreign bodies retained in the gastrointestinal tract are present in the esophagus. Impacted dentures can cause local problems such as mucosal ulceration, inflammation and fatal complications such as perforation, para- or retro-esophageal abscess, mediastinitis, empyema or even tracheo and aorto-oesophageal fistula. (1) Impaction will also result in mechanical obstruction with its attendant sequelae of repeated aspiration, malnutrition from inadequate food intake. (2) Aspiration and minimal signs, and sometimes asymptomatic. (3). The chief symptoms are bouts of coughing while eating or drinking (Ohno's sign) and with recurrent pulmonary infections. (4) Most dentures are radiolucent, thus may be missed by routine chest x-rays. (5) A chest X ray indicates pulmonary
involvement, and a chest CT defines this and evaluates mediastinal disease. Barium esophagography is the most sensitive test for diagnosis and provides a definitive diagnosis in 78% of cases (6). It localizes the fistula and demonstrates the esophageal caliber. Endoscopy, with or without ultrasound imaging, further characterizes the fistula and facilitates biopsies. Management depends on the cause, degree of pulmonary involvement, and existence of esophageal obstruction. The key elements in management are Sepsis control, Nutritional support, Respiratory therapy, and Surgical resection. (7) The goals of surgical treatment for EBF include division of the fistulous tract, suture closure of the defects of the bronchial tree and the esophagus and interposition of viable tissue to prevent recurrence. Thoracotomy provides a safe approach in view of dense pleural adhesions as a sequel of recurrent pneumonia. Recently thoracoscopic techniques have been demonstrated as safe and effective. In our case since there were dense adhesions in the region of hilum, the options left behind were either to leave the bronchial defect to close on its own or to go for left pneumonectomy. We chose the first option and kept the second option as a reserve in case of failure. The other options of management are closure using a tissue adhesive such as histoacryl cement, aethoxysclerol or fibrin glue, Dual stenting of both the esophagus and airways (8) or Endoscopic approach using stuffed cotton slivers soaked in saline solution (9).

CONCLUSION
The diagnosis of esophagobronchial fistula should be suspected in patients with retained foreign body esophagus who are seen with chronic pulmonary symptoms. With the appropriate use of contrast studies of the esophagus as well as endoscopic examinations of the esophagus and tracheobronchial tree, serious delays in diagnosis can be avoided. Endoscopic removal has inherent risk of tear or perforation. So guarded surgical approach is necessary for good outcome.

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