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Case Study

ESOPHAGEAL PERFORATION FROM INGESTION OF FISH BONE- AN UNUSUAL CLINICAL PRESENTATION

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ABSTRACT

Foreign body ingestion is a common occurrence in children and specific high-risk group of adults. Although most foreign body pass through the gastro-intestinal tract without difficulty, sharp, pointed and elongated are associated with high risk of perforation, vascular penetration and other complication.

Esophageal perforation is a critical condition resulting in mortality in most of the cases. Prognosis and outcome depend on perforation size, the time taken to identify the cause and diagnosis, underlying comorbidities and health of a patient. Common etiological factors for perforation includes: medical instrumentation [most commonly endoscopy], trauma, ingestion of foreign substance etc. Herewith, a clinical presentation of 61-year-old gentleman had an esophageal perforation due to ingestion of fish bone was presented with the relevant supportive literature. Patient presented with chest pain, mild abdominal discomfort and fever. Initial evaluation was misinterpreting and later revealed with esophageal perforation impacted by fish bone with acute inflammatory changes.

Boston scientific fully covered self-expanding metallic stent placed, and patient becomes hemodynamically stable and the clinical outcome was successful and got discharged on 8th hospital day.

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INTRODUCTION

A 61-year old gentleman presented to emergency department, with a clinical history of CAD-S/P PTCA done 9 years back, known hypertensive and type-2 DM got admitted with complaints of chest pain, fever, abdominal discomfort for two weeks, constipation and occasionally dysphagic. Patient was conscious, oriented, blood pressure of about 150/90mmhg and maintained saturation on room air with blood glucose level of 283mg/dl. Initial blood investigations were done and revealed mild metabolic acidosis and leukocytosis. Liver enzymes were slightly increased.

On primary evaluation from the emergency department, patient was found to have sepsis and decompensated heart failure and patient was transferred to intensive care unit for the management of sepsis. Despite of broad-spectrum antibiotics, and other supportive measures, patient showed poor

improvement in symptoms following which CT abdomen and chest was done, and findings revealed consolidation in right upper lobe, paraoesophageal multiple air pockets collection and adjacent adenopathy leads to a suspicion of sealed esophageal perforation.

Gastroenterologist opinion was considered, and an endoscopy was done. Cricopharynx and upper esophagus is normal. At 35 cm, shows impacted fish bone (Figure-1) penetrating the lower esophagus from the incisor is evident. About 0.5 cm was seen in the lumen and the surrounding mucosa was edematous and erythematous. Bone was grasped using Rat tooth forceps and removed and planned for SEMS (Figure-2).

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Figure 1 Endoscopic image showing a fish bone embedded in lower esophagus

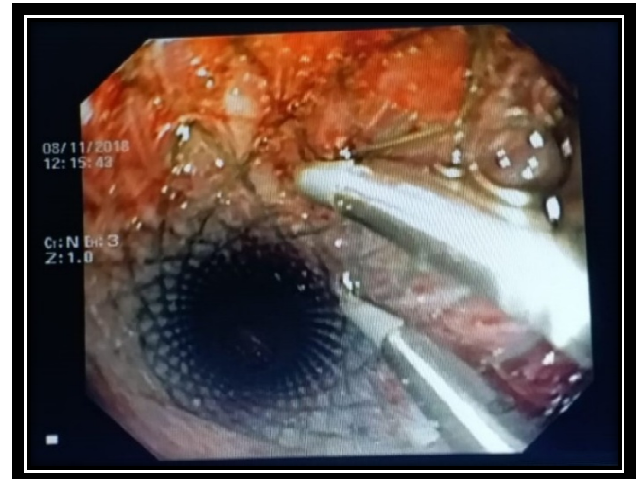


Figure 4 Post Procedure [Boston scientific fully covered self-expanding metallic stent (wall flex esophageal 23mmX125mm) with Hemoclip]

The post procedure course was uneventful. Patient was hemodynamically stable, symptomatically improved and had an uncomplicated recovery with a completely healed wound (Figure-5) with follow-up proceedings.

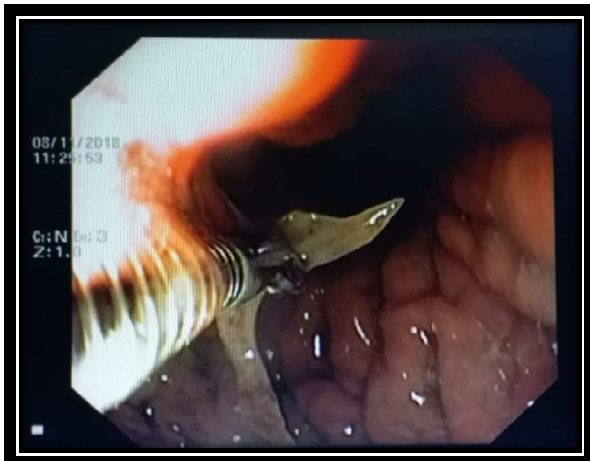


Figure 2 Removal of fish bone with Rat tooth forceps

The removed bone was approximate 3cms in size and the distal 2cm of bone pierced and impacted the mucosa (Figure-3). Boston scientific wall flex esophageal stent of 23mm X 125mm is placed over the perforation along with two Boston scientific hemoclip to avoid migration of stent (Figure-4).

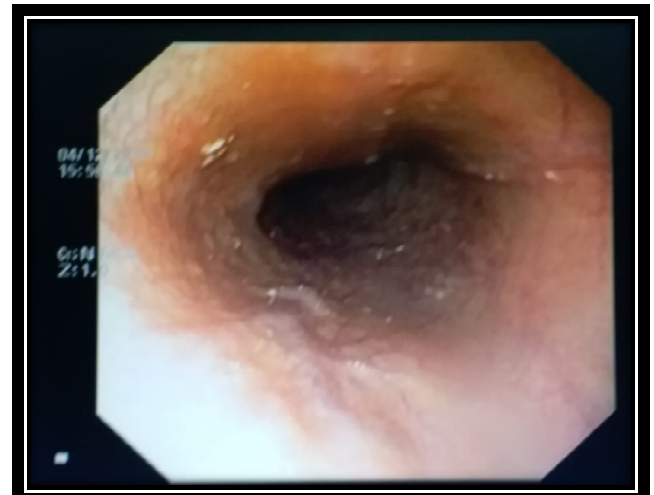


Figure 5 Post treatment healed esophageal perforation

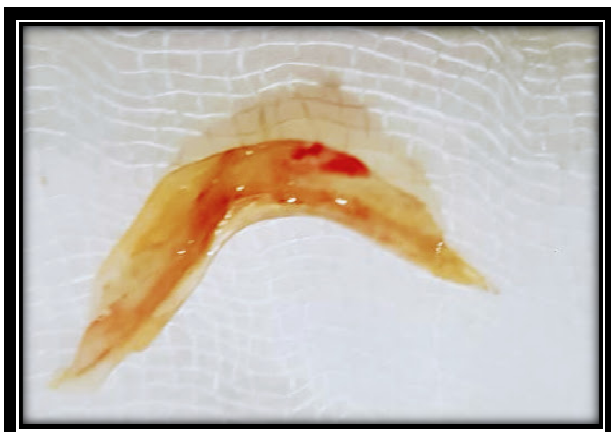


Figure 3 Impacted sharp fish bone

DISCUSSION

A tubular muscular structure between Oral cavity and stomach is an Esophagus. It helps to pass the foods and liquids safer consisting of 4 layers, named: inner mucosa, submucosa, muscularispropria and outer adventitia [1,2]. The most common areas for impaction of foreign substances are cervical esophagus, aortic arch and gastro esophageal junction as these are the areas of anatomical narrowing of esophagus [3]. The clinical picturization of esophageal impacted foreign substance relies on the duration since injury, location, size of the foreign body [4,5]. Current patient has 3cm fish bone pierced into the lower esophagus as seen in figure-1.

The most common clinical symptom is dysphagia, odynophagia, drooling, choking and complication depends on the sharpness, size, shape of the foreign body [6,7]. In contrary, our patient has dysphagia occasionally and the major symptoms he had on admission was chest pain, mild abdominal discomfort along with fever, hence the diagnosis was quiet challenging. Impacted fish bone is blunt, pointed about 3cms in size with irregular shape as seen in figure-2.

Diagnosis is mostly relying on radiographic findings. If impacted foreign body suspected, chest radiography to be done to identify emphysema, pleural effusion and pneumopericardium [8]. Although, conservative intervention using endoscopy remains beneficial in most of the cases who are clinically stable with esophageal perforations [9,10]. Our patient was presented with an impacted fish bone in lower esophagus got removed using rat tooth forceps via endoscopy and Boston scientific SEMS placed for endoscopic closure as seen in figure-3.

All types of esophageal perforation require urgent surgical intervention. Indications include: hemodynamically unstable, No improvements in medical intervention, signs of sepsis and contamination of pleural space /mediastinum etc. [11]. The overall prognosis and mortality rate are higher, but the survival depends on timely intervention and health status of a patient [12]. Our patient had a successful post procedure outcome and got discharged on 8th day from admission.

CONCLUSION

Aetiological factors, Time taken to identify diagnosis, location and intensity of perforation in esophagus influences intervention, prognosis and outcome. Time is of essence in case of esophageal perforation as every minute is critical and most of the patients require surgical intervention. Diagnosing is challenging; thus, every second is crucial in terms of successful outcome.

Conflicts of interests

Authors have declared none.

This clinical presentation is based on informed consent of patient

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