

Case report

A Radiolucent Foreign Body Ingestion as a Cause of Acute Dysphagia

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Abstract

Foreign body denture is common among edentulous adults because of decrease the sensitivity of the oral cavity. Carelessness in handling dentures and failure to seek early medical attention even the denture has broken are among the contributing factors. Persistence of symptoms with normal radiograph findings still require further actions which include surgical intervention. Rigid esophagoscopy remain as standard treatment modality for removal of foreign body.

Keywords: Esophagus; foreign body; dentures; radiograph; radiolucent

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Introduction

The esophagus is a tubular structure about 25 cm in length¹. There are 4 area of constrictions where foreign body (FB) are more likely to be lodged. The sites are at cricopharyngeal sphincter, crossed by the aortic arch, by the left main bronchus, and where it passes through the opening in the diaphragm¹. The patients can usually able to localize FB in the upper esophagus more accurate compared to the lower two third of the structure.

FB ingestion commonly occurs in the paediatric population with the peak incidence between the ages of 6 month and 6 years². However, FB ingestion (with the non-food object) also occurs in adult with psychiatric disorders, developmental delay and alcohol intoxication. Edentulous adults are also at greater risk of ingesting FBs, including obstructing food bolus or their dental prosthesis. Older children and adults may identify the ingestion and localize discomfort. However, the area of discomfort does not correlate with site of impaction².

FB in the esophagus can cause mucosal inflammation, ulceration and perforations that can lead to severe infections such as mediastinitis, deep neck abscess aspiration, pleural empyema may occur. Other complications reported are scarring, obstruction and fistula³.

Case report

A 36-year-old man presented to the emergency department early in the morning with complaint of difficulty in swallowing after accidentally swallowed his denture during eating dinner. He was unable to tolerate orally as he had pain during swallowing. However, there was no symptom of airway compromised or hoarseness. Examinations show vital signs were stable and he was afebrile. The patient was able to point the pain at tracheal level. Flexible laryngoscopy showed no evidence of FB, pooling of saliva seen, no laceration or trauma to the oropharynx and laryngeal mucosa.

A neck radiograph in anteroposterior and lateral views were unremarkable. However, in view of positive and persistent clinical symptoms, he was planned for direct laryngoscopy, esophagoscopy and removal of FB in the operating room under general anesthesia on the same day.

Intraoperatively the FB which was a denture was found at 25 cm from upper incisor with the sharp end facing downward the esophagus. The denture was grasped using forceps and slowly pulled up, however, it was stucked at cricopharyngeal sphincter and after deflating the cuff of endotracheal tube it

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was successfully removed. The denture plate was without metal loop and according to the patient the tooth was already broken 2 days prior to incident. A check esophagoscopy was done noted abrasion wound at 15, 23 and 25cm from upper incisor. The post-operative period was uneventful and the patient was allowed orally after 24 hours. Postoperative neck and chest radiographs were done and there was no evidence of esophageal perforation or pneumonitis. He tolerated orally well then was discharged home after day 3 post operation.



Figure 1: Removed FB (denture plate without tooth and metal loop).

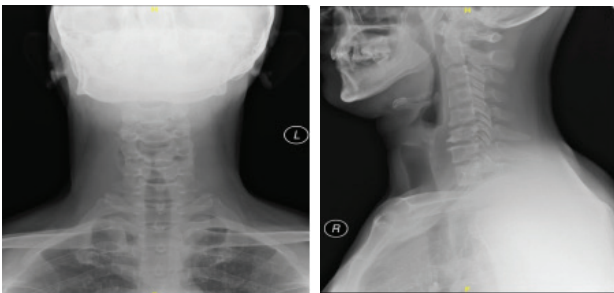


Figure 2: Preoperative plain radiograph of neck in AP and lateral view show no FB seen.

Discussion

The important point in managing case of suspected impaction of esophageal FBs is to decide the need to proceed with esophageal endoscopy. Clinical history, physical examination and radiographs are hallmark in decision making⁴. About 80% or more of FB cases will pass spontaneously without need for further surgical intervention². However, in the setting of intentional ingestion, the rate of endoscopic intervention may be much higher about 63% to 76% and the need for surgical intervention ranges from 12% to 16%².

In case of esophageal FB ingestion, the early presentations include dysphagia, odynophagia or drooling of saliva. If this early period is missed or neglected, there will present with signs of perforation or infection such as generalized chest pain, sensation of chest discomfort and laryngeal irritation. Therefore, accurate diagnosis at early presentation and initiating prompt treatment are important to prevent catastrophic complications⁵. Our patient presented within 12 hour post ingestion, with odynophagia and dysphagia. Even the radiography finding was negative, positive history of FB ingestion, and persistence of symptoms including inability to swallow saliva and odynophagia are most important diagnostic criteria⁶.

Plain cervical and chest radiographs are a very important diagnostic tool to confirm the location, size, shape and number of ingested FBs and help to rule out aspirated objects. However, not all fish or chicken bone, wood, plastics, glass and thin metal objects are readily seen. For example, fishbone opacity depends on species. Lateral soft tissue neck radiographs are essential in all 21 patients with radiopaque FBs even though those with negative plain radiographs are included⁴. In total of 32 patients (51.6 per cent), lateral soft tissue neck radiographs were considered useful in managing the cases⁴. Plain radiographs give useful information which would have helped in the clinical management of more than half these patients. However, by the poor radiology interpretation skills of junior doctors, the usefulness of plain radiographs was limited⁴.

Persistent esophageal symptoms in the patient with suspected FB ingestion should be evaluated by endoscopy even though with negative radiographic evaluation. Endoscopy could be performed without obtaining radiograph for patient suspected non bony food bolus impaction with no complication. For all patients presenting with positive history of FB ingestion even when physical and radiological examinations is negative must be subjected to endoscopic evaluation within 24-36 hours⁷. In this case, preoperatively there was positive history of FB ingestion and radiological examination were negative due to radiolucent nature of FB.

In fact, endoscopy is the suggested method for FB removal with a reported success rate of 83%³. The success rate of rigid endoscopy ranges between 87 and 98 % while with flexible endoscopy ranges between 80 and 98.5 %⁸. In rigid endoscopy, the risk of perforation as high as 3 % compared to flexible endoscopy only less than 1%⁸. However, rigid

endoscopy accommodates use of larger grasping forceps and allows removal of the irregularly shaped and sharp FB. Rigid endoscopy usually used with FB impacted in the upper esophagus whereas flexible endoscopy was the predominating approach to FB in the lower esophagus⁹. Both techniques allow excellent visualization of the esophagus and

allow biopsy if required⁸. There is significantly less dysphagia after flexible endoscopy compared to rigid endoscopy⁹. Rigid and flexible endoscopy are considered to be safe and effective methods in experienced hands either performed under general anaesthesia or conscious sedation.

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