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Unusual Precordial Pain by Impacted Denture

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Abstract

Use of dentures is not an uncommon practice. Swallowing of such dentures can give rise to variable symptoms ranging from chest pain, dysphagia, oesophageal perforation, and erosion of a vessel leading to haemorrhage or rarely gastric outlet obstruction. Here we present a case of 62 year old man presenting with chest pain, dyspepsia, early satiety leading to occasional self induced vomiting . Upper GI endoscopy was performed which revealed an impacted denture in duodenum.

***Keyword**: Impacted denture, Chest pain, Upper GI Endoscopy, Bangladesh.*

Introduction

The aspiration or ingestion of a foreign body has most frequently been reported in the paediatric population; however, it is not uncommon in the adult population. In respect of age group, in children coin accounts for most esophageal foreign bodies, whereas in adults, bones and boluses of meat are the commonest reported causes. But, in the elderly population, dental prostheses account for most esophageal foreign bodies.[1-3] In adults aspiration of teeth and dental restorations though a recognized, but not a frequent happening in the literature. Maxillofacial trauma, dental treatment procedures, ethanol intoxication and dementia are the most important causes leading to such events.[4-6]. To best of our knowledge, this is the first case report from Bangladesh where swallowed partial denture caused precordial pain and partial duodenal obstruction.

Case Report

A 62 years old man presented with complaints retrosternal chest pain for two weeks, occurring mostly after meals, and not associated with breathlessness and effort. Further inquiry into his illness revealed complaints of dyspepsia, occasional epigastric pain, abdominal bloating which progressed over a period of two years to abdominal fullness which was relieved occasionally by induced vomiting. Though the patient complained of significant weight loss, his appetite was relatively good. He had no complaints of dysphagia, neck pain.

Clinical examination revealed he was mildly anaemic, pulse rate-92/min, blood pressure-110/80mm of Hg, mild dehydration and no lymphadenopathy. His alimentary system examination was normal. Laboratory investigation showed his Hb-9.8 gm/dl, ESR- 25 mm in 1st hour. Peripheral blood film showed normocytic normohromic anaemia and anti H. Pylori antibody was negative. Stool occult blood test was negative. ECG and ETT were performed to look for cardiac aetiology but both tests showed no evidence of any ischaemic heart disease.

Upper GI endoscopy was performed which revealed the presence of an impacted foreign body in duodenal bulb. The bulb was markedly deformed with partial narrowing. Oesophagus was normal. Following retrieval of the foreign body it was found to be an artificial denture. At that point patient recalled swallowing of a denture about three years back which he presumed to have passed with stool. The patient's symptoms improved since removal of the object. He was discharged with conventional proton pump inhibitors for two months and requested to follow up after same period.

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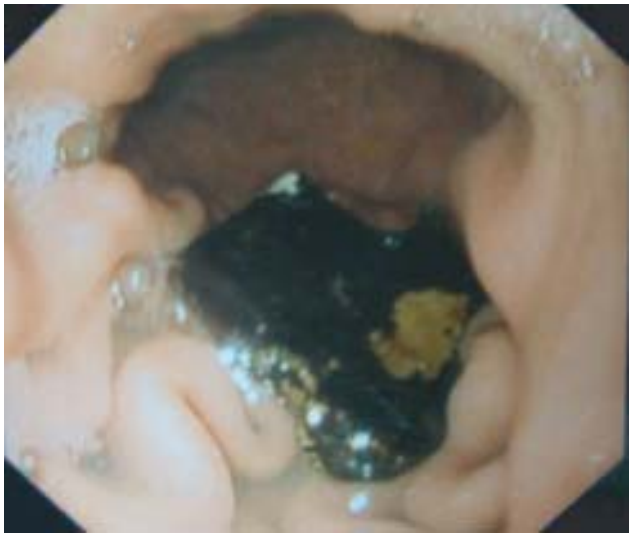

Fig-1: *Showing impacted foreign body in duodenum*

Fig- 2: *Showing retrieved partial denture.*

Discussion

In the general population, ingestion of foreign bodies is not uncommon, especially in children, alcoholics, edentulous people, and mentally handicapped people. In the United States, annually about 1500 people die from the ingestion of foreign bodies.[7] Accidental swallowing is much more common in paediatric group and rare in adults especially reported at with learning and mental health disorders. [8, 9]

Fortunately, the majority of foreign bodies entering the oropharynx eventually pass through the GI tract without complications. The most likely presenting symptom after swallowing of a denture is dysphasia, with other complaints related to how far the denture has progressed and time since swallowing. Thus further reports may also be anticipated of sore throat, choking sensation, retrosternal pain, sweating and a raised temperature and coughing up blood. However, there is a potential risk of gut perforation, which can have serious consequences including death. [10-12] Other reported late complications of unnoticed foreign body ingestion include sepsis, peritonitis, retropharyngeal and intraabdominal abscesses, oesophageal impaction and stricture, ulcerative esophagitis, tracheoesophageal and enterocolonic fistulas, recurrent pneumonitis, and massive hemorrhage.[11-13] Large objects, especially those with sharp edges, can get impacted, usually at the level of the fourth cervical vertebra.[14]

Our patient sought medical attention for chest pain presuming it to be ischaemic origin which was ruled out by appropriate investigations. In analysis of non cardiac atypical chest pain, about 50% of all patients with chest pain and normal coronary anatomy have been found to have oesophageal reflux or motility disorders, 60% had some form of breathing disorders and 60% some form of psychiatric disorders. [15] But in our patient oesophagus was normal. Though a demonstrable abnormality may be present in most cases but it is not the rule which may be true in case of our patient. [16, 17] Though it is presumed that once a foreign body has reached the stomach, it has an 80%–90% chance of passing along the gut spontaneously without problems. [18, 19] Bodies thicker than 2 cm and longer than 5 cm will not likely leave the stomach spontaneously. [16, 17] About 10%–20% will require removal from the GI tract by endoscopy. [11,14] But in our patient it was impacted in duodenum as a result of a pre existing doudenal stenosis due to chronic duodenal ulcer giving rise to symptoms of partial duodenal obstruction. Less than 1% of all foreign bodies cause a perforation, but the percentage is higher in case of sharp and pointed objects as 15%–35% of this type of foreign body will cause intestinal perforation once they have left the stomach. [14, 20, 21] Dull foreign bodies can also cause perforations by causing pressure necrosis and subsequent destruction of underlying mucosa and muscle. [12] Patients with intrinsic bowel disease are at an increased risk of developing perforations from the ingested foreign body. This includes patients with bowel adhesions, inflammatory bowel disease, GI tumors, diverticulosis of large bowel, hernias, and Meckel's diverticulum.[12, 13] Most common sites for perforation are the ileocecal junction and the sigmoid colon. [13]

Aspirated or swallowed partial dentures can present a diagnostic challenge in mentally challenged people, extremes of ages and also in patients such as ours where the incident is forgotten. Poly (methylmethacrylate), the plastic from which most dentures are made, is radiolucent. Porcelain teeth produce light shadows on a plain radiograph but it is the

metal parts attaching the teeth to the denture base that make them readily visible. [22] Although a plain X-ray may well not identify a swallowed denture, the investigation may be undertaken to exclude pneumomediastinum or gas within the soft tissues.[23] Both anteriorposterior and lateral films are required. However, negative radiological findings do not exclude the possibility of a foreign body . Persistence of symptoms, even in the absence of positive clinical or radiological signs, warrants an endoscopic examination.

In most cases where patient gives a history of such an event and if the patient has mild symptoms then patient can be followed up with physical examination and radiology as the usual time taken for a foreign body to traverse the intestinal tract is 2 to 12 days .[19] In a cross-sectional study of 103 patients with foreign- body ingestion, Khan et al. reported that complications were more common in adults (37.1%) compared with children (8.8%) and that the most severe complications occurred with ingested dentures. [23] Early diagnosis and treatment will avoid the edematous reaction and mucosal infection and necrosis.[14] Endoscopy may provide alternative way for extraction of foreign bodies of gastrointestinal tract. In case of failure of the foreign body to progress beyond ileocecal valve colonoscopic extraction may be indicated. [25, 26] In our patients case, his symptoms were subtle which delayed him to seek treatment but eventually the denture was removed uneventfully by endoscopy.

Conclusion:

In conclusion we can say that though swallowing of denture is infrequent, has the potential to become a life threatening condition. So proper use of artificial denture should be emphasized which includes not wearing dentures at night, and if missing, its early report should be promoted to prevent its complications.

Conflict of Interest: None

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