The Adventure of Two Dentures

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A 64-year-old non-alcoholic, non-smoker male had a history of accidental ingestion of an artificial denture some two years back. Patient subsequently developed mild retrosternal burning, and a chest radiograph and a plain abdominal radiograph could not detect the swallowed tooth. No further investigation was done.

From six months after the incidence, patient started experiencing repeated episodes of lower respiratory tract infection with production of copious, purulent sputum, for which he was treated with oral antibiotics. The patient also had some episodes of choking and coughs while eating hurriedly which he mostly ignored.

Dated three months back, the patient again accidentally swallowed another denture while chewing food. Over the next few days, he developed acute dysphagia with odynophagia, and gradually became unable to swallow solid foods. Patient was admitted and resuscitated. A barium swallow x-ray of esophagus, done for evaluation of dysphagia, showed a bronchoesophageal fistula communicating with the right main bronchus (Figure 1). Broad spectrum antibiotic was started. An upper GI endoscopy confirmed the fistulous opening at 24 cm from the upper central incisor teeth on the right anterior wall of esophagus with a smooth regular margin (Figure 2). There was no ulceration, nodularity of the mucosa or narrowing of the lumen at that site. Endoscopy also revealed an impacted artificial denture at the lower esophagus (at 35 cm) with surrounding mucosal erythema, edema and ulceration (Figure 3). The denture could not be removed endoscopically. Patient was referred to Cardiothoracic surgeon but while waiting for a definite intervention, he died due to an episode of aspiration pneumonia that culminated in septicemia and acute lung injury.

Acquired causes of bronchoesophageal fistula (BEF) include malignancies, infections, and traumatic factors like prolonged endotracheal intubation and blunt chest injury.¹ Accidental ingestion of foreign body can rarely cause acquired BEF.² The diagnosis of acquired BEF due to artificial denture is very challenging because of the radiolucent nature of the denture, and also the patient may be asymptomatic initially and present later.³ They are characterized by bouts of coughing while eating or drinking (Ohno’s sign) and with recurrent pulmonary infections.¹ Delay in diagnosis may be complicated by pneumonia, life-threatening hemoptysis, and respiratory failure. Barium esophagography is the most sensitive test for diagnosis and provides a definitive diagnosis in 78% of cases.¹

This unfortunate man had accidentally swallowed two artificial dentures on two occasions. A brief episode of retrosternal pain following the first ingestion, repeated episodes of respiratory tract infection and, choking and coughs with out any other organic pathology in a non-smoker male who had no previous ailments, and the subsequent discovery of a well formed bronchoesophageal fistula during endoscopy – all indicated that the initial impaction resulted in an acquired fistula. Congenital fistulae rarely present in this age and the patient was previously asymptomatic. Also there was no clinical or endoscopic evidence of other commoner acquired causes. The second episode of ingestion resulted in obstruction producing acute dysphagia. Standard treatment in such case is operative intervention with cervical esophagotomy and drainage followed by esophagogastric anastomosis. Accompanying fistula needs to be closed as well.

This case highlights the importance of early diagnosis and prompt treatment of foreign bodies in the esophagus.

References


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