



Diagnosis and Management Decision in Delayed Posterior Mediastinal Abscess Secondary to Thoracic Esophageal Perforation Following Accidental Fish Bone Ingestion.



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Abstract

Accidental swallowing of fish bone, which arrested in either the cervical or thoracic esophagus, is fairly common. However, the incidence of esophageal perforation due to this fish bone is low. Delayed posterior mediastinal abscess as a result of the esophageal perforation is a rare manifestation and may lead to fatal outcome. Two cases of delayed formation of posterior mediastinal abscess following thoracic esophageal perforation due to accidental fish bone ingestion are described in this presentation. In both cases the sole clinical feature is interscapular back pain. In one of the cases the patient died because of the presentation was misdiagnosed hence delayed intervention. The clinical presentations, radiological findings and surgical management are discussed. Neck exploration and esophagoscopy as the surgical treatment for this problem are illustrated.

Key words: esophageal perforation, posterior mediastinal abscess

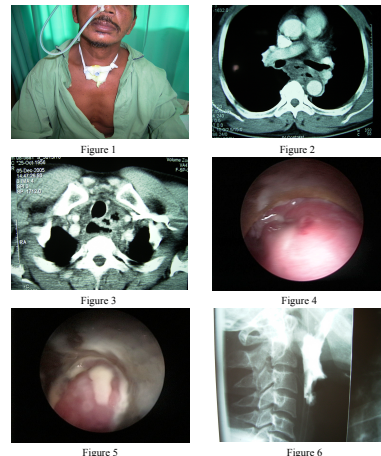
Introduction

Foreign body (FB) deposition in the oesophagus is a common acute clinical problem in the otolaryngology clinics. This is because the oesophagus is a passive and unadaptable organ. Compared to the rest of gastrointestinal tract, its peristaltic activity is much less. Most of the FBs were impacted at or above the cricopharyngeus level. This can be confirmed on neck x-ray and rigid oesophagoscopy. A wide variety of FBs were retained in the oesophagus but fish bones were the most common followed by chicken bone.¹ These two FBs were most commonly associated with **major complications** such as oesophageal perforation, cervical or mediastinal abscess and migratory FB in the neck or even in the mediastinal tissues. About 1500 deaths per year in the USA have been recorded caused by FB ingestion.² In general, the most **common symptoms** are chest or pharyngeal pain, dysphagia, odynophagia, FB sensation and sialorrhoea. Some of the **risk factors** identified leading to complications were delayed presentation for more than 2 days after ingestion, FB seen on plain cervical radiography and FB impacted at the level of cricopharyngeus.³

Case Presentation

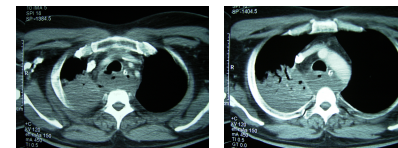
Case 1

Mr. AK, a 49 year-old, Malay man who had a fish bone stuck in his throat for one-week duration. He presented with dysphagia, odynophagia and inter-scapula pain, which associated with fever for the past 4 days. Flexible endoscopy showed pooling of saliva but no foreign body seen. He was admitted and started on intravenous antibiotics. CT scan (**fig.2&3**) showed appearance of inflammation and possibly early abscess formation at the periesophageal, prevertebral space and posterior mediastinum region. No obvious collection or foreign body seen. He was put under general anaesthesia. Tracheostomy was done for an airway precaution. Direct laryngoscopy showed edematous mucosa and slough at right hypopharyngeal area. Esophagoscopy (**fig.4&5**) revealed edematous mucosa, slough and pus coming through the wound at right wall of the esophagus 20 cm from upper incisor. Neck exploration was proceeded with esophagoscope in-situ as a guide but no foreign body found after extensive searching. He was discharge home after repeat CT scan about a month later showed resolution of the peri-esophageal and mediastinum inflammation & barium swallow showed no fistula (**fig.6**).



Case 2

Mr. RM, a 47 year-old, Indian man, who is a chronic alcoholism with newly diagnosed diabetes mellitus was referred to the ENT clinic for query esophageal perforation following foreign body (lamb bone) removal by a private ENT specialist few days earlier. He presented with inter-scapula pain, which became worse after each meal associated with mild-grade fever. General examination showed an afebrile man in slight distress due to back pain. He was admitted and started on Intravenous antibiotics. He was put on tube feeding. Gastrograffin study showed no evidence of leak and chest X-Ray was normal. OGDS by a surgeon found no foreign body and no evidence of leak. Orthopedic assessment for the back pain was also unremarkable. After 10 days in the ward, he was discharge home after his back pain showed an improvement. However 3 day later, the patient came back to the A&E dept. He presented with choking-like symptom. While waiting, he suddenly developed shortness of breath, wheezing and hyperventilation and subsequently collapsed. He was immediately resuscitated and intubated, then sent to the Intensive Care Unit. CT scan (**fig.1&2**) revealed an edematous tissue at the posterior pharyngeal wall, air-fluid level at prevertebral space until posterior mediastinum. Also noted was bilateral lung base infection. Despite aggressive treatment in the ICU, the patient died 2 day later. The cause of death was septic shock with hypoxic brain.



Discussion

Complications related to FB ingestion may be severe and life threatening. Majority of patients who has FB stuck in the oesophagus gave a **positive history** of accidental swallowing of this substance while eating. Once the oesophageal been perforated the mediastinitis will developed. But it normally will have **delayed presentation** which was noted in both presented cases.

An **inter-scapula pain** is a very significant clinical feature to suggest of mediastinitis or abscess formation. Other **risk factors** predicting the development of mediastinitis are an old age, edentate patient, significant concurrent medical illness and chronic alcoholism. In suspected cases of mediastinitis a **CT scanning** of the neck and thorax are mandatory. As this will clearly shows the pathology compare to plain lateral cervical radiography. It provides more information regarding the site, relation of the abscess to the great vessels and the extension. Certain case it may disclose the position of the FB. But in the presented cases, CT scan does not revealed any FB. Broad spectrum intra-venous antibiotic should be commenced immediately. Rigid **oesophagoscopy** examination under general anaesthesia is performed to inspect and / or remove any FB presence in the lumen. Surgical **neck exploration** is proceed immediately after the oesophagoscopy to evacuate the abscess and to remove migratory FB which confirmed on CT scan. Tracheostomy may indicated if there is large mediastinal abscess.

Conclusion

When a patient presents few days after FB ingestion with a complaint of inter-scapula pain, there is a high possibilities of mediastinitis as a result of oesophageal perforation. CT scan is a mandatory investigative procedure prior to surgical intervention. Increased awareness of possible complications and prompt intervention may improve the clinical outcome for patients with these risk factors.

References

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