

Penetration of Esophageal Wall by A Fish Bone

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Abstract

A 64-year-old male presenting with retrosternal discomfort and odynophagia due to swallowing of a fish bone resulting in esophageal penetration is reported herein. A small segment of a fish bone protruding from an ulcerative lesion in the middle esophagus was noted while withdrawing the endoscope, but it was not visible during advance of the endoscope through the esophagus. After endoscopic retrieval of the fish bone, conservative treatments including starvation, intravenous fluid and antibiotics were successful for this patient. (J Intern Med Taiwan 2006; 17: 298-301)

Key Words : Fish bone, Esophagus, Penetration

Introduction

People frequently swallow foreign bodies and these usually pass through the gastrointestinal tract without complication¹. Esophageal penetration resulting from foreign body ingestion is uncommon, with the incidence reported to be between 1% and 4%². A wide variety of objects were retained in the esophagus but fish bones were the most common (60%) and chicken bones the second most common (16%)³. Fish bone perforation of the esophagus can result in life threatening complications if diagnosis is delayed. Prompt recognition and retrieval of ingest-

ed fish bones can reduce the morbidity and the mortality. This report described a case of esophageal penetration caused by an ingested fish bone which was successfully removed using an endoscopic biopsy forceps.

Case Report

A 64-year-old male presented with retrosternal discomfort associated with odynophagia 4 days after a fish meal. His past medical history was unremarkable. Chest film revealed no evidence of a foreign body density. At upper gastrointestinal endoscopy, two small ulcerative lesions were encountered ini-

tially while advancing a fiber endoscope through the middle portion of the esophagus. The stomach and the duodenum were normal. A small segment of a foreign body was identified protruding from one of the previously described ulcerations in the esophagus located at approximately 20 cm from the central incisors, only during withdrawal of the scope (Fig. 1). The foreign body was removed using a biopsy forceps and identified as a fish bone. No purulent drainage or hemorrhage was observed from the site of the esophageal penetration after removal of the fish bone. The fish bone was measured 1.8 cm in length (Fig. 2). Conservative treatment was afforded with nothing per os, intravenous fluid and antibiotics. The patient remained asymptomatic up to 2 weeks of follow-up.

Discussion

Ingestion of fish bone is a frequent complaint, but esophageal perforation resulting from fish bone ingestion is uncommon. The mechanism of fish bones associated with esophageal perforation is thought to be initial impaction and then a combination of local

inflammation of the esophageal wall and direct pressure necrosis. The most common site of foreign body impaction in the esophagus is the cervical esophagus at the level of the cricopharynx, followed by the thoracic esophagus at the level of the aortic arch⁴. Perforation of the esophagus by a foreign body usually results in a dramatic clinical picture characterized by odynophagia, dysphagia, respiratory distress, vascular injury and fever. Migration of a foreign body to tissues outside the esophagus is rare, including the lung⁵, the liver⁶, the subcutaneous tissues of the neck⁷, the thyroid gland⁸, the inferior pulmonary ligament⁹, a major blood vessel¹⁰ and the pericardium¹¹.

Plain films of the neck and chest can identify radiopaque foreign bodies in the esophagus, but they prove to be unsatisfactory for detecting an ingested fish bone. Barium studies also seem to be ineffective in detecting an ingested fish bone. Computed tomographic (CT) scan is a simple and reliable method for diagnosing esophageal fish bone impaction and may reduce the rate of unnecessary esophagoscopies¹². On rare occasions, a foreign body (like a fish bone) can follow an atypical tract and not be detected by chest radiograph or CT scan. Once a perforation has been confirmed, a dynamic contrast computed tomogram or arch aortogram is essential to exclude vascular involvement. Endoscopic retrieval of the foreign body along with close observation, intravenous antibiotics and nothing by mouth may provide successful management in a very select group of patients. Fish bone

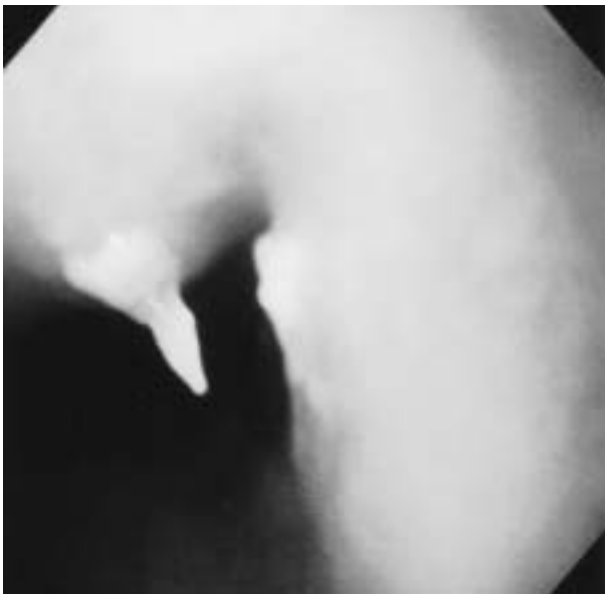


Fig.1. Endoscopic image showing a fish bone imbedded in the wall of the mid-esophagus with a sharp end protruding into the lumen. Another ulcerative lesion resulting from irritation of the free sharp end of the fish bone is also shown.

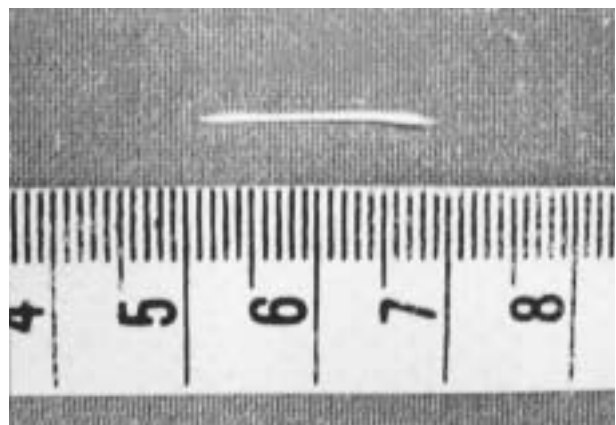


Fig.2. The removed fish bone measuring 1.8 cm in length

perforation is associated with a high degree of contaminations. The high mortality in the patients with esophageal fish bone perforation results from the lack of clinical suspicion and the late initiation of treatment. The main causes of death were vascular injuries (aortoesophageal fistula, innominate-esophageal fistula, carotid rupture) and suppurative complications (mediastinitis, pericarditis)¹³.

Our case is unique in that an ingested fish bone completely imbedded in the middle esophagus was not visible while an endoscope was advanced through the esophagus. Only a small segment of the impacted fish bone was visualized upon withdrawal of the endoscope, and most part of it was imbedded into the esophageal wall. Clinically, foreign body penetration or perforation is viewed with high index of suspicion when an endoscopy showed ulcerative lesions in the gastrointestinal tract, especially in patients with a history of ingestion of sharp foreign bodies or presenting with symptoms indicating ingestion of foreign bodies. A biopsy forceps can be used to do explorative bite of tissues in the ulcer site in the hope of removing imbedded sharp foreign bodies. Vascular injuries should be considered when impacted foreign bodies were encountered. At this time, endoscopic ultrasonography may be used to assess the extent of extraluminal involvement before trying to remove the imbedded foreign bodies. CT scan¹⁴ or magnetic resonance imaging¹⁵ may be performed in the event of a negative endoscopic evaluation.

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魚刺導致之食道穿透

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摘 要

異物誤食入消化道並非少見，大都可自行排出體外。因誤吞魚刺而造成食道穿孔並不多見。我們報告一例64歲男性病患，因誤吞魚刺造成食道穿透，臨床上以胸部不適及吞嚥疼痛表現。胃鏡檢查時，當內視鏡進入時只發現兩個潰瘍病灶在食道中段，但回抽內視鏡時，則發現有一小段魚刺從其中之一的食道潰瘍凸出。之後經由內視鏡以切片夾取出，且禁食以靜脈輸液及抗生素成功治療此病患。