Esophageal Foreign Body (Pheasant) Presenting As Myocardial Infarction

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Citation

Abstract
Chest pain is a common symptom among those visiting the emergency department. It is a manifestation of both cardiac and non-cardiac conditions. Accurately discerning the correct diagnosis and treatment of the patient with chest pain remains one of the most difficult tasks of the emergency physician. Oesophageal disorders are most common causes of non cardiac chest pain. The presentation of foreign body in the upper GI tract is usually straightforward but may be extremely subtle, as in this case. We describe here a case of pheasant bone entrapment in the oesophagus with dynamic ECG changes, diagnosed and treated as acute coronary syndrome (ACS) in a middle aged woman.

CASE REPORT
A 56 year old woman was admitted via accident and emergency with 2 hours history of sudden onset lower chest pain radiating to the epigastric region after having dinner in a restaurant. The pain was constant and sharp in nature. She was known to have mild asthma but was not on any medications. There was a strong family history of ischemic heart disease. She was hemodynamically stable. Clinical examination revealed mild epigastric tenderness. Chest and cardiovascular examination was normal. Routine bloods were normal including D-Dimer. Chest X-ray was normal and there were no signs of perforation. ECG showed T wave inversion in aVL and V1-V6 and ST segment was isoelectric (Fig1)

She was treated for acute coronary syndrome and admitted to CCU. After an hour her pain got worse. A repeat ECG now showed ST elevation in lead III and aVF and T wave inversion in lead I, aVL and V1-V6 (Fig2)
She was still in pain despite morphine and nitrates. The ECG was repeated after 30 minutes to monitor the progress. The only abnormality found now was T wave inversion in aVL, V1-V2. A 12-hour troponin came back negative. The patient was reviewed by cardiology team and an impression of pericarditis was given. An echocardiogram revealed normal left ventricular function. USS abdomen was performed which was normal. The patient continued to have pain and developed fever of 38°C.

The patient was treated with analgesics without improvement. To investigate the epigastric pain an OGD was performed which showed two opposing ulcers at 35 cm with an ‘odd object’ bridging between the ulcers. (Fig 3)

CT scan was performed to delineate the object which showed linear calcified lesion, 1.5 cm in length, spanning across the oesophageal lumen 2-3 cm above the gastro-oesophageal junction with marked circumferential thickening of oesophagus. The next day another OGD was performed and a pheasant bone was removed successfully. The ECG became normal after removal of bone. (Fig 4)

The patient felt better and was discharged home on PPI.

DISCUSSION

The risk of accidental foreign body (FB) ingestion in oesophagus increases in certain vulnerable groups e.g. semi comatose individuals, alcoholics, young children, elderly, people with learning difficulties or psychiatry history and the visually impaired. However it has also been used deliberately for criminal purposes to conceal drugs (e.g. heroin and cocaine) or stolen goods. Some prisoners or street people also ingest foreign bodies in an attempt to gain hospital admission.

Various factors that determine the outcome of FB ingestion include shape, size and type of the ingested object, along with anatomical and pathological narrowing of oesophagus. The sharp and elongated FBs are more likely to impact and cause injury while rounded smooth objects pass easily. The objects with diameter wider than 2cm and longer than 5cm are unlikely to pass from the stomach. The most common site for impaction of FB are the areas of physiological narrowing i.e. cricopharyngeus, area of compression by the aortic arch and the left main bronchus in the mid-oesophagus, the diaphragmatic hiatus and pylorus. Physical obstruction due to strictures, hiatus hernia and tumors also provide a site for impaction. Most FBs pass through the gastrointestinal tract safely but sometimes impaction causes obstruction and injury leading to oesophageal haematoma, tear, bleeding/perforation, and oesophago-aortic fistula. The extra-oesophageal effects of obstruction can lead to
mediastinitis, neck abscess, tracheo-oesophageal fistula, and injury to the pericardium or heart.

The vast majority of foreign bodies pass through the gastrointestinal tract uneventfully and no medical or surgical treatment is necessary. Endoscopic treatment or surgical intervention is only necessary in 20% and 1% of cases, respectively\(^1\)\(^{2}\).

There have been a few case reports of cardiac tamponade caused by oesophageal perforation due to foreign bodies\(^3\)\(^{4}\). Previous reports of reversible ECG changes resembling those of myocardial ischemia or infarction from cardiac compression by extra-cardiac causes include a gastric tube located retrosternally after oesophageal reconstruction, causing marked reversible ST-T changes due to cardiac compression\(^5\)\(^{8}\). An anterior mediastinal tumor has also been reported to cause reversible ST-T changes, which disappeared after tumor removal\(^9\).

A previous case report of cardiac compression from a dilated stomach conduit after pyloroplasty resulted in ST elevation in inferior leads. The symptoms and ST changes subsided after nasogastric suction and decrease in stomach conduit size\(^10\).

The case discussed above displayed unusual presentation from outset. It was initially mistaken for acute coronary syndrome because of dynamic ECG changes. The ECG changes could be explained by presence of foreign body in oesophagus causing irritation of pericardium as it was in the lower oesophagus. Previously a case has reported ECG changes of myocardial infarction and AV block due to a large meat bolus which resolved after removal endoscopically\(^11\). However our case is unique because of a small unsuspected pheasant giving rise to dynamic ST elevation and chest pain mimicking pericarditis/myocardial infarction.

**References**

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