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Case Report

CASE REPORT

Spontaneous oesophageal rupture: a diagnostic challenge in resource-limited setting

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Abstract

Spontaneous oesophageal rupture after swallowing a bolus of food is a very rare condition. In resource-limited settings, it is very challenging to diagnose this condition especially when its presentation is atypical. Its prognosis is very poor when diagnosis is delayed due to risk of mediastinitis. We report a case of 37-year-old man who was admitted to our hospital complaining of sudden onset of chest tightness and pain after a meal 8 h prior to admission. Urgent chest radiograph revealed right hydropneumothorax with collapsed lung. Water-seal drainage was established gushing 1200 ml of food materials. Definitive diagnosis of oesophageal rupture was reached after post-mortem.

INTRODUCTION

Oesophageal rupture is a rare life-threatening condition that is difficult to diagnose and associated with a significant high mortality [1]. Early diagnosis and aggressive treatment are essential to save the patient's life [2]. Causes include endoscopic procedures, surgery, blunt injuries, fall from the height, inflammatory process and spontaneously due to severe vomiting [3–7]. Spontaneous oesophageal ruptures rarely happen due to swallowing of food material. In this case, we present a 37-year-old male who had spontaneously oesophageal rupture after ingesting food bolus.

CASE REPORT

A 37-year-old male was referred to our hospital due to acute respiratory distress (ARD) with massive right pleural effusion of unknown aetiology. He experienced sudden onset of chest tightness and pain 1 h after his evening meal. There was no previous history of chest tightness, pain or trauma or vomiting. He went to a local clinic where analgesics, antibiotics, aminophylline and oxygen were given but without any relief. Progressive chest tightness and pain were noted and therefore the patient was sent to our tertiary hospital 5 h later.

On arrival at our emergency room, the patient was critically ill, dyspnoeic with an SaO2 of 60% in room air and 90% on 4 l of oxygen by nasal catheter. Chest radiograph revealed a right hydropneumothorax with collapsed lung, air in the pleural cavity, pleural effusion, mediastinum shift to the left and infiltrates in the left lung (Fig. 1). Water-seal drainage was inserted by surgeons, which yielded air together with 1200 ml of food material. Patient was started on broad spectrum intravenous antibiotics within the first 8 h.

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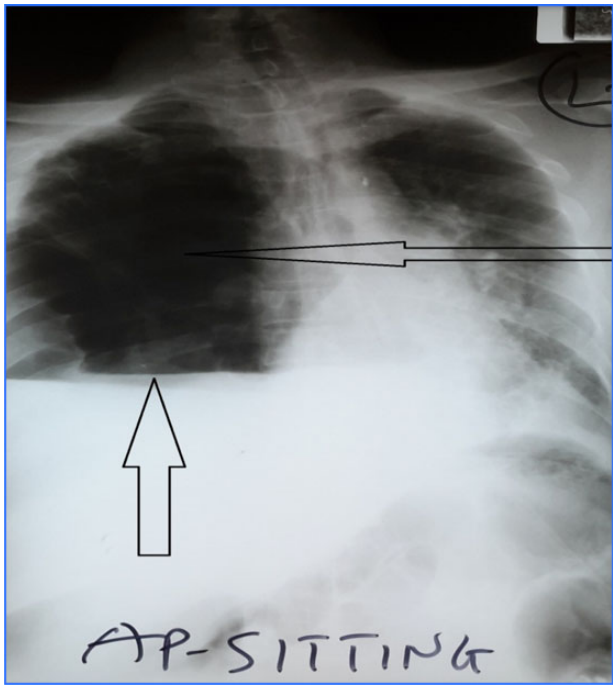

Figure 1: Collapsed right lung and hydropneumothorax (arrow).

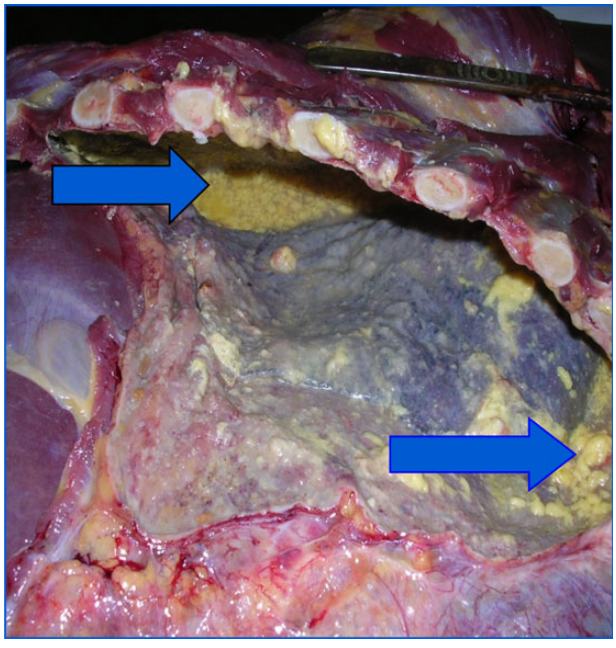

Figure 2: Spillage of food material in the pleural space (arrow).

The following 16-h urgent abdominal radiography was done suspecting iatrogenic perforation of oesophagus or stomach due to air and food material in the water-seal drainage. Surgeons were consulted; before Graffin study could be done patient's condition changed and he died. Post-mortem revealed yellow food material in the right pleural space (Fig. 2). On dissecting the oesophagus, a longitudinal rupture of ~5 cm just above the junction of the aortic arch was revealed (Fig. 3). The cause of death was concluded to be a spontaneous mid-oesophageal rupture due to swallowing a food bolus.

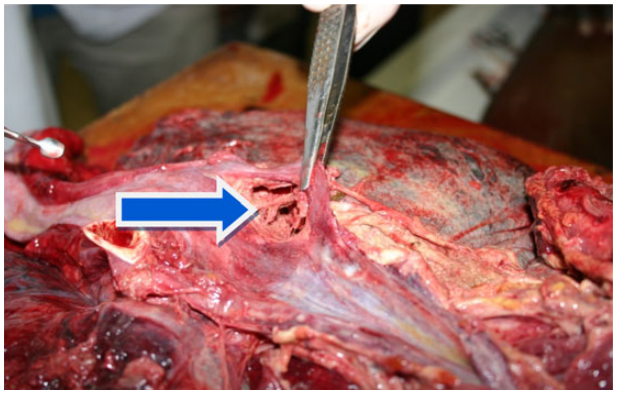

Figure 3: Longitudinal rupture of ~5 cm just above the junction of the arc of aorta (arrow).

DISCUSSION

To the best of our knowledge, there has been no published report of oesophageal rupture in adults after swallowing food bolus. Typically oesophageal rupture occurs after forceful emesis; usually the most common anatomical position of rupture is the left posterior lateral wall of the lower third segment, 2 or 3 cm above the lower gastroesophageal junction. In our case, the post-mortem revealed that the rupture occurred ~5 cm just above the junction of the aortic arch [8, 9]. Clinically, oesophageal rupture presents with vomiting, lower thoracic pain and subcutaneous emphysema (Meckler's triad) [10, 11]. In the current case, the presentation was completely different, as it presented with chest tightness and pain which attributed to considering ARD. After urgent chest radiography, which revealed right hydropneumothorax with collapsed lung, water-seal drainage was inserted. Basing on clinical presentation and chest radiography, oesophageal rupture was not considered and the gushing out of air admixed with food material after pleural drainage prompted us to suppose an iatrogenic perforation of bowel. Furthermore, other differentials such as hiatus hernia or diaphragmatic rupture were considered rather than oesophageal rupture. Urgent chest and abdominal (supine and erect), radiographs were performed which ruled out bowel perforation. In case oesophageal rupture is suspected, the best option to confirm it is contrast esophagography [12]. Diagnosis of oesophageal rupture is not straightforward; it is a big challenge across resource-rich and limited countries [13, 14] that do not allow time to be lost. By the time Graffin study was ordered, the patient's condition changed and passed away before the procedure. Post-mortem was requested to assess the definitive cause of the right pleural effusion, the origin of food material in the pleural effusion and the cause of death. Autopsy revealed yellow food material in the right pleural space (Fig 2). Upon oesophageal dissection, a longitudinal rupture of ~5 cm just above the junction of the aortic arch was seen leading to a diagnosis of spontaneous oesophageal rupture (Fig. 3).

We report the case of 37-year-old man who died within 48 h since admission due to mediastinitis secondary to a spontaneous oesophageal rupture confirmed by post-mortem. He was initially suspected to have right pleural effusion with ARD. This case report demonstrates the difficulties in diagnosis of oesophageal rupture due to its non-specific signs, symptoms and radio-imaging. In view of its poor prognosis, early diagnosis and prompt intervention within the first 24 h is critical for good outcome.

CONFLICT OF INTEREST STATEMENT

None declared.

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