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Case Report

MISDIAGNOSIS OF CHEST PAIN: SPONTANEOUS ESOPHAGEAL RUPTURE – A CASE REPORT

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ABSTRACT
Chest pain is amongst the most common causes for adults visiting the ER worldwide. While the world is battling these modern day epidemic there is more & more number of patients coming to the ER with such chest pains. Patients with atypical chest pain, no associated risks factors require an evaluation for coronary artery diseases as well. While we must address the cardiac causes, one should also rule out non-cardiac causes especially in elderly, females & alcoholic patients. Esophageal rupture is one such condition which is life-threatening & carries a high mortality rate. It can be missed in the emergency department (ED) & delay in diagnosis may further worsen the outcome (Sinan Inci *et al.*, 2013). We report on a 55-year-old man who presented to the ED complaining of chest pain, who was later found to have spontaneous esophageal rupture

Keywords: *Esophageal rupture, Misdiagnosed Chest Pain, Atypical chest pain*

INTRODUCTION
Given that coronary artery disease (CAD) is the leading cause of death worldwide, rapid identification of an acute myocardial infarction is the foremost consideration in the emergency physician's differential diagnosis. Patients with acute coronary syndrome (ACS) often have symptoms indistinct from those of other emergent conditions. The complaint of chest pain can be observed in patients with an aortic dissection, pulmonary embolism, pneumothorax, pericarditis or esophageal rupture (Tung-Han Hsieh et al., 2011). The complaint of acute non-traumatic chest pain presents one of the most difficult diagnostic challenges in emergency medicine. Patients with this complaint ac-count for approximately 5% of all emergency department visits (Graff *et al.*, 1997).

CASE
A 55-year-old man presented to the ED three hours following the onset of dull central chest pain irradiating to abdomen associated with uneasiness. Patient was a known alcoholic with no significant medical history. He had been binge drinking for past 2 days with mild chest discomfort & multiple episodes of vomiting. Upon evaluation his heamodynamic parameters were within normal limits, clinical evaluation revealed minimally decreased air entry to the left side with no other abnormal findings initially. Peripheral line was secured, routine blood samples sent, 12-lead electrocardiogram revealed ST segment changes thus troponin was also sent. Baseline investigations (full blood count and biochemistry screen) were normal. Echocardiogram revealed no regional wall abnormality, normal LVEF with minimal pericardial effusion, quantitative troponin was normal (0.01ng/ml). Patient was treated symptomatically with antacids, anti-emetics & analgesics but the pain persisted.
After 30 minutes of hospital stay he started to desaturate, clinical examination revealed surgical emphysema in chest wall, neck. CT scan Chest showed collapse consolidation of left lower lobe with pleural & mediastinal emphysema along with subcutaneous emphysema of neck & left lateral chest. He was taken for uppergastrointestinal endoscopy which revealed perforation of Mid-Esophagus (Fig.2). The

patient was taken for endoscopic stent placement. He was transferred to critical care unit, was kept on non invasive ventilatory support for 2 days, he recovered well & was discharged after 5 days.

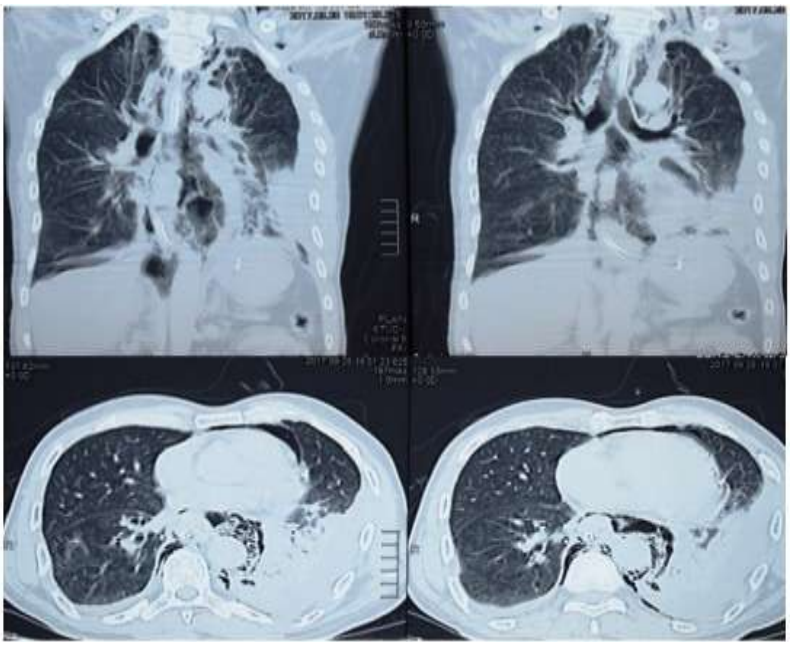

Figure 1: CT scan Chest showed collapse consolidation of left lower lobe with pleural & mediastinal emphysema along with subcutaneous emphysema of neck & left lateral chest.

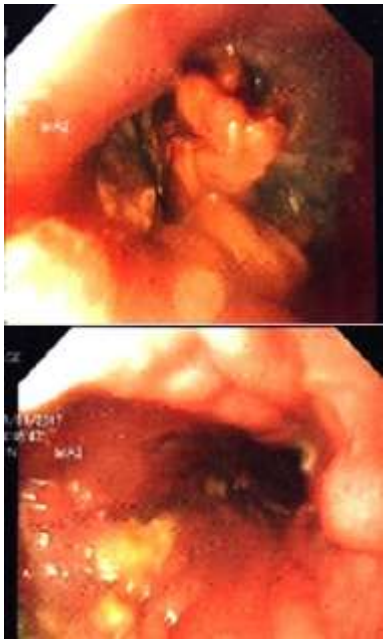

Figure 2: Upper gastrointestinal endoscopy showing esophageal rupture.

CONCLUSION

A typical chest pain can be a tricky medical condition to diagnose in the emergency department. The classic history of vomiting followed by severe chest pain, subcutaneous emphysema and shortness of breath is not always seen. A recent case series showed that 12-50% of patients have no history of vomiting (Elin R, Jessica F et al., 2006). We initially misdiagnosed the present case as ACS because of the patient's chest pain and ECG findings such as ST segment depression and T wave inversion in leads V1-V6. But the presence of surgical emphysema & progression of breathing difficulty was a warning sign that the pain could be of different origin. After Boerhaave in 1724 described the term "spontaneous rupture of the esophagus" it has been used in description of all perforations involving the entire thickness of the esophageal wall, whenever perforation was associated with forceful or prolonged emesis (Whyte, 2001). Conditions causing the perforation may be increased intra-luminal pressure, preexisting esophageal diseases, and neurogenic causes (Burnett *et al.,* 1990). Spontaneous esophageal rupture may rapidly progress to mediastinitis, sepsis, and multiple organ failure.

All patients with undifferentiated chest pain should be thoroughly evaluated and have their chest CT re-viewed before medical treatment is initiated. The majority of patients will have chest radiographic abnormalities (Racheli *et al.,* 2006). The present case is intended to emphasize that chest pain due to esophageal disease may be overlooked, though such cases rarely occur. The differential diagnosis of conditions associated with chest pain should also include pathologies associated with lungs, esophagus & mediastinum.

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