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PHOTO QUIZ

A young man with odynophagia, nausea and vomiting

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A 22-year-old male was referred to our hospital with a two-day history of nausea and vomiting after drinking ten units of alcohol. He complained of odynophagia, shivering and fever. His medical history was unremarkable. He smoked ten cigarettes a day but did not use any drugs. On physical examination we saw a moderately ill man. Blood pressure was 120/80 mmHg, heart rate 116 beats/min. His respiratory rate was 20 breaths/min. The oxygen saturation was 98% without supplemental oxygen. His body temperature was 38.4 °C, height 173 cm and weight 60 kg. Examination of the heart, lungs and abdomen was normal. Laboratory results showed haemoglobin 13.0 mmol/l, haematocrit 0.56 l/l, white blood count 21.1 x 10^9/l, sodium 132 mmol/l, potassium 6.4 mmol/l, blood urea nitrogen 22.5 mmol/l, creatinine 532 µmol/l, C-reactive protein 165 mg/l, and glucose 7.6 mmol/l. Arterial blood gas analysis showed pH 7.39, pO2 11.4 kPa, pCO2 4.7, HCO_3^- 20.9 mmol/l, and a base excess of -3.4 mmol/l. Urinary sediment was normal. Electrocardiogram showed a sinus rhythm, rate 98 beats/min, right-axis deviation and high T waves. A chest X-ray was obtained (*figures 1 and 2*).

Figure 1. *Posteroanterior view of chest X-ray*

Figure 2. *Lateral view of chest X-ray*

WHAT IS YOUR DIAGNOSIS?

See page 327 for the answer to this photo quiz.

ANSWER TO PHOTO QUIZ (PAGE 323)

A YOUNG MAN WITH ODYNOPHAGIA, NAUSEA AND VOMITING

DIAGNOSIS

The chest X-ray shows a pneumomediastinum: air tracking along the upper mediastinal structures and subcutaneous emphysema in the neck. On the lateral view, air around the aortic arch can be detected. No signs of pneumothorax are seen.

A pneumomediastinum can result from air escaping from the respiratory or gastrointestinal tract.[1] An underlying trigger can be identified in most cases of pneumomediastinum.

Acute asthma exacerbation is the most common trigger. Other causes include Valsava manoeuvre (intense sport activities, coughing), vomiting, respiratory infections, diabetic keto-acidosis, oesophageal rupture, inhalation of a foreign body, dental extraction and barotrauma (flying or diving).[2]

CT scan of the chest and upper abdomen with water soluble contrast media was obtained to search for the cause of the pneumomediastinum and to exclude Boerhaave's syndrome.[3] Extensive pneumomediastinum was seen with air extending into the neck. Air entering the retroperitoneum was not detected. A few sections showed a small air configuration eccentrically within the wall of the oesophagus suggesting an oesophageal perforation. However, no contrast media was seen in the soft tissues around the oesophagus. If this had been seen, it would confirm an oesophageal rupture, but its absence does not exclude rupture.

Oesophagogastroscopy was performed to confirm an oesophageal rupture with the option of positioning an expanding oesophageal stent.[4] During endoscopy, intraluminal contrast was given at a proximal and mid-oesophageal level. No signs of leakage were detected. However, a distal reflux oesophagitis grade D was confirmed.

A thorough examination of the oropharynx showed no abnormalities to explain the pneumomediastinum.

The patient was treated conservatively for a covered oesophagus perforation with parenteral infusion, antibiotics and proton pump inhibitors. The kidney function improved on parenteral infusion and the patient recovered uneventfully. Delayed diagnosis and treatment of an oesophageal perforation is associated with prolonged morbidity and high mortality.

Conclusion: In a patient presenting with odynophagia, nausea, vomiting and pneumomediastinum, an oesophageal rupture should be excluded.

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