

EMERGENCY CASEBOOKS

Bilateral spontaneous pneumothorax—the case for prompt chest radiography

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Figure 1 Chest radiograph showing bilateral pneumothoraces. The white arrows indicate the lung edges.

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Simultaneous bilateral spontaneous pneumothorax is a rare condition occurring in up to 1.9% of cases of spontaneous pneumothorax.¹ Risk factors include male sex, smoking, height and underlying lung conditions. An increase in the incidence is seen in AIDS patients with underlying pneumocystis carinii infection.² In contrast with a large unilateral pneumothorax, simultaneous bilateral spontaneous pneumothorax presents difficulties in diagnosis from clinical signs alone and definitive diagnosis requires chest radiography.

A 39 year old man self presented to the accident and emergency department with acute dyspnoea. On arrival at the department he was in severe respiratory distress and unable to give any history. Initial examination found him to be extremely agitated, cyanosed and tachypnoeic. Although he was maintaining his own airway and his trachea was central, air entry was poor into both sides of his chest. Both hemithoraces were resonant to percussion and scattered crackles were audible on auscultation throughout both lung fields. Arterial oxygen saturation was only 60% despite administration of 15 litres oxygen via a non-rebreathing mask with a reservoir bag. Cardiac output at this time was not impaired. Intravenous access was secured and a chest radiograph obtained. Arterial blood gases revealed a type 2 respiratory failure with pH 6.99, P_{O_2} 6.49 kPa, P_{CO_2} 9.80 kPa, and base excess was -14.7. The patient was intubated and ventilated and his saturation improved. At

this point the chest radiograph was returned to show a bilateral pneumothorax with complete collapse of the right lung and 50% collapse of the left lung (fig 1).

Needle thoracocentesis confirmed that the right side was under tension and bilateral chest drains were promptly inserted. His respiratory parameters improved dramatically and he was transferred to the intensive care unit. The left pneumothorax resolved, however there was a persistent air leak on the right and he was transferred to the local cardiothoracic unit where video assisted thoracostomy, pleurectomy and apical resection for bullous disease was performed with good result. Although he was a male smoker he had no other identifiable risk factors or other underlying pulmonary disease and no evidence of AIDS.

This case demonstrates the importance of urgent chest radiography in the emergency room for all patients in respiratory distress.

Contributors

SCW produced the manuscript and acts as guarantor. The paper was jointly written by SCW, LJH and SM. SCW and LJH edited the paper.

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- 1 Athanassiadi K, Kalavrouziotis G, Loutsidis A, *et al.* Treatment of spontaneous pneumothorax: ten-year experience. *World J Surg* 1998;22:803-6.
- 2 McClellan MD, Miller SB, Parsons PE, *et al.* Pneumothorax associated with *Pneumocystis carinii* pneumonia in AIDS: incidence and clinical characteristics. *Chest* 1991; 100:1224-8.

A misdiagnosed fracture of the calcaneum

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A 57 year old retired male truck driver and known sufferer from myaesthesia gravis presented to the accident and emergency department with severe pain in his left ankle. The pain had begun suddenly while standing on tiptoe. His myaesthesia gravis had been treated with oral prednisolone and azathioprine for three years. Physical examination revealed a palpable gap over the posterior ankle. As Symmonds test was negative, a clinical diagnosis of partial rupture of the Achilles tendon was made and the limb was placed in an equinus plaster of Paris.

Seven days later in clinic, it was noted that the presumed defect in the Achilles tendon was

unusually low and appeared to be demarcated by bone both above and below. Plain radiographs confirmed an avulsion fracture of the calcaneum (fig 1). This was successfully treated by open reduction with internal fixation. Subsequently, dual x ray absorptiometry showed that the patient's bone was well into the osteopenic range.

Ruptured Achilles tendon is a common presentation in the casualty department and is usually diagnosed on clinical grounds alone. One of the most striking features is the presence of a palpable gap on the affected side. In this case, the gap caused by an unusual fracture was mistaken for a gap in the tendon. Only