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Breathlessness and neck swelling after a rugby game

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ENDGAMES

SPOT DIAGNOSIS

Breathlessness and neck swelling after a rugby game

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A 16 year old boy presented to the emergency department with breathlessness and painful neck swelling after playing in a game of rugby. He had not sustained any trauma to the neck or chest. He had a history of asthma and had recently had an upper respiratory tract infection. His breathlessness was not helped by his salbutamol and he described the neck swelling and breathlessness progressively worsening since the match. What abnormalities are identified in the radiograph (fig 1) and what do they signify as the underlying diagnosis?

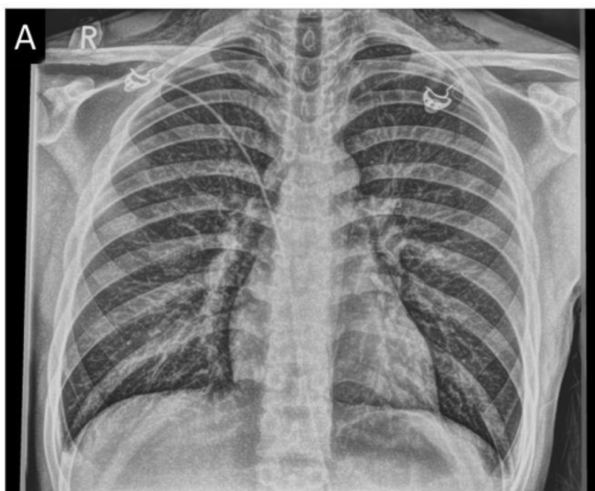


Fig 1 Posteroanterior chest radiograph

around the cardiac silhouette in association with air in the soft tissues in the neck confirmed a pneumomediastinum (fig 2). Nasendoscopy with a computed tomography (CT) scan revealed no evidence of disruption to the trachea or oesophagus (fig 3). By exclusion, a diagnosis of spontaneous pneumomediastinum was made. Symptoms and signs abated within 72 hours and the patient made a full recovery, returning to full play three weeks later.

Short answer

The radiograph shows air in the mediastinum with surgical emphysema.

Discussion

The patient came to medical attention after describing swelling. Surgical emphysema was suspected clinically after he presented with a “crackling and crunching” sensation in his neck. No pneumothorax was seen on the radiograph, but a thin rim of air

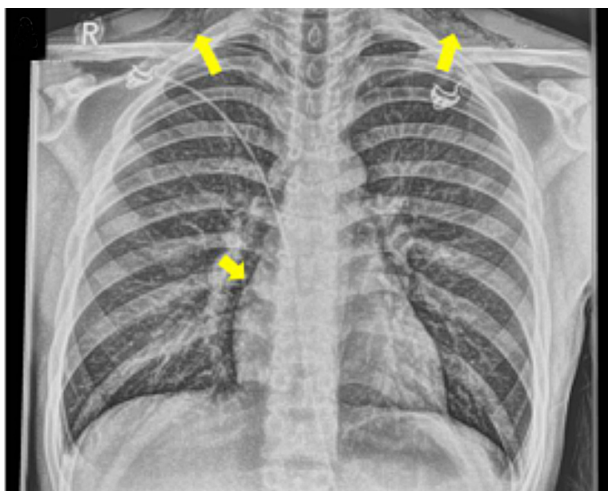


Fig 2 Air around the cardiac silhouette (arrows), with air in soft tissue in the supraclavicular regions

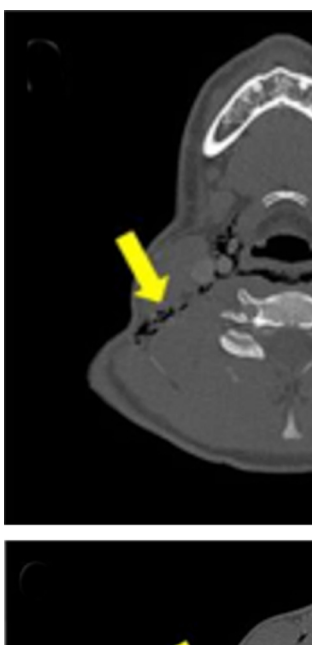


Fig 3 Computed tomography (CT) images of the neck (A, B) and chest (C) show air diffusely throughout mediastinum and interspersed between mediastinal structures. The CT scan showed no evidence of tracheal or oesophageal abruption

Spontaneous pneumomediastinum is associated with poorly controlled asthma, upper respiratory tract infections, and forced Valsalva manoeuvres.¹ The condition predominantly affects teenagers and younger adults.

Spontaneous pneumomediastinum usually resolves quickly with supportive care during the acute episode (control of underlying asthma, analgesia, rest, and oxygen therapy where necessary).^{2,3} There is no requirement for prophylactic antibiotics unless there is evidence of oesophageal rupture. Although not usually recurrent, emphasis should be on achieving optimal control of any underlying causal factors such as poorly controlled asthma. Clinical signs may not be overt unless there is palpable surgical emphysema.⁴

Learning points

Spontaneous pneumomediastinum is a diagnosis of exclusion.

Careful history and physical examination, with a high index of clinical suspicion supported by plain chest radiograph can reveal the diagnosis. Supportive care is appropriate and the focus should be on treating any underlying predisposing factors.

The authors have read and understood BMJ policy on declaration of interests and declare no competing interests.

Patient consent obtained.

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