Subcutaneous emphysema of the abdominal wall

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DESCRIPTION

A 50-year-old woman presented generally unwell and septic with some vague abdominal pain. She had a background of severe chronic obstructive pulmonary disease and bronchiectasis and was known to have a large incarcerated left-sided inguinal hernia. Surgery had previously been refused as the patient was unable to lie supine due to severe dyspnoea.

Clinical examination revealed no evidence of intestinal obstruction and only mild tenderness over the hernia, alongside significant subcutaneous emphysema also present on this plain abdominal radiograph (figure 1). While maximal over the area of origin, subcutaneous air can be seen throughout the abdominal wall. Chest radiograph was unremarkable. This patient was managed with intravenous antibiotics and fluids, however, sadly did not respond to treatment and later died.

Figure 1 Plain abdominal radiograph demonstrating significant subcutaneous emphysema of the abdominal wall.

This rare sign is frequently a late manifestation of a severe intra-abdominal infection caused by gas-producing organisms; in this case we surmise a fatal enteric perforation within the hernia sac causing necrotising fasciitis of the adjacent soft tissue.¹ Other possible causes of subcutaneous emphysema of the abdominal wall include direct communication through a colocutaneous fistula and spread of luminal gas through the retroperitoneum as a result of perforation and high intraluminal pressures.^{2 3}

Clinicians should be aware of this clinical and radiological sign, and understand the severity of the underlying disease process it represents.

Learning points

- ▶ The appearances of this plain radiograph suggest subcutaneous emphysema of the abdominal wall, which was also apparent clinically.
- ▶ This is usually a late sign of a severe intra-abdominal infection caused by gas-producing organisms.
- ▶ Prompt identification and appropriate management is needed for this severe life-threatening condition.

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