Subcutaneous emphysema and pneumomediastinum

A 45-year-old man was transferred to our institution for management of potential bronchopleural fistula complicating left upper lobe surgical lung wedge resection for lung adenocarcinoma. Four days after surgery, extensive subcutaneous emphysema was seen on chest X-ray (Figure 1A). CT scan revealed pneumomediastinum causing tracheal compression (Figure 1B, arrow). Physical exam revealed crackling
crepitations in his chest, neck, face (Figure 1C), and both arms and hands. Bronchoscopy revealed no evidence of airway injury. His air leak was deemed to be due to parenchymal disruption from the surgical site. He was managed conservatively with chest tube suction and the subcutaneous emphysema resolved.

Subcutaneous emphysema is gas beneath the skin due to air leak from the respiratory or gastrointestinal tract or the environment (i.e. trauma, gunshot or stab wounds). It may occur following procedures, including thoracic surgery or chest tube malfunction.

Frequently, subcutaneous emphysema occurs in the presence of an underlying pneumomediastinum.¹

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Reference