Spontaneous pneumomediastinum without pneumothorax in idiopathic pulmonary fibrosis

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A 58-year-old man with a background of idiopathic pulmonary fibrosis (IPF) presented with a sudden onset of breathlessness following repeated coughing. He was a life-long non-smoker. On examination, there was evidence of extensive subcutaneous emphysema involving his neck and chest. He was haemodynamically stable with oxygen saturations of 95% breathing room air.

A chest radiograph, obtained at presentation, showed evidence of pneumomediastinum (Figure 1) as well as presence of subcutaneous air in a diffuse pattern.

Figure 1. Chest radiograph showing evidence of subcutaneous emphysema and pneumomediastinum

A thoracic computed tomography (CT) scan (Figure 2) was obtained to further characterise the extent of pneumomediastinum and evaluate for co-existing
pneumothorax. The CT scan confirmed the radiographic findings of mediastinal air collection with no evidence of either a pneumothorax or oesophageal rupture.

Figure 2. Images from a CT scan showing subcutaneous emphysema and pneumomediastinum without any co-existing pneumothorax
The patient was treated conservatively with spontaneous improvement in symptoms and significant resolution of pneumomediastinum on follow-up chest radiographs.

This case highlights the importance of considering spontaneous pneumomediastinum (SPM) following repeated attacks of cough in a patient with IPF. Although pneumothorax is commonly associated with SPM, this case suggests that this diagnosis should be considered even in the absence of a pneumothorax. The likely mechanism of the development of SPM is alveolar rupture secondary to increased intrathoracic pressure.\(^1,2\)

In this particular case, the increased intrathoracic pressure is believed to be the result of extensive cough. CT scan is the diagnostic modality of choice in suspected SPM as it provides more precise information regarding the presence, extent of extra-alveolar air and co-existing pneumothorax.\(^3\)

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**References:**