Tension pneumothorax mimicking giant emphysematous bullae

A 65-year-old man was admitted with left thoracic pain and dyspnoea. One year before admission, he had undergone talc pleurodesis by thoracoscopy to manage a left recurrent pneumothorax due to tobacco-related emphysema. Chest x-ray (figure 1) and CT scan (figure 2A–C) showed clustered air pockets in between normal lung parenchyma. It was unclear whether the radiological image was due to unilateral giant emphysematous bullae or to clustered pneumothorax following talcage, with areas of lung detachment in between areas of lung adhesion to the parietal pleura. A shift of the heart to the right was visible. The marked unilateral nature of the abnormal air collection, the lack of vessels coursing through the wall of the bullae, the location within the major fissure and the absence of other smaller bullae in the left lung were suggestive of a pneumothorax. A left chest tube improved the patient’s symptoms with re-expansion of the lung. The patient underwent pleurectomy by left thoracotomy. No emphysematous bullae were macroscopically visible, thus confirming the diagnosis of pneumothorax. Clustered tension pneumothorax is a rare condition that can be misdiagnosed as giant emphysematous bullae, especially after previous thoracic procedures.

Michel Gonzalez, Thorsten Krueger, Hans-Beat Ris, Jean Y Perentes

Department of Thoracic and Vascular Surgery, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland

Correspondence to Dr Michel Gonzalez, Department of Thoracic and Vascular Surgery, University Hospital of Lausanne, Rue du Bugnon 46, Lausanne 1011, Switzerland; michel.gonzalez@chuv.ch

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Learning points

- Tension pneumothorax after previous thoracic surgery can be misdiagnosed as giant emphysematous bullae in the case of intense adhesion between lung and pleura.
- The unilateral nature of the air collection, the lack of vessels coursing through the wall of the bullae, the location within the major fissure and the absence of other smaller bullae in the controlateral lung are suggestive of a pneumothorax.
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Michel Gonzalez, Thorsten Krueger, Hans-Beat Ris and Jean Y Perentes

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