Subcutaneous emphysema and pneumomediastinum as rare complications of transbronchial biopsy

Sofia Moreira-Silva,1 Joana Urbano,1 Gonçalo Rocha,2 Vitor Braz1,2

1Internal Medicine Department, Centro Hospitalar de São João, Porto, Portugal
2Unidade Cuidados Intermédios de Medicina, Centro Hospitalar de São João, Porto, Portugal

Correspondence to Dr Sofia Moreira-Silva, siamms@gmail.com

Accepted 12 December 2015

DESCRIPTION

Pneumothorax complicates 1–6% of transbronchial biopsies whereas pneumomediastinum and subcutaneous emphysema are rare complications of this procedure.1 Pneumomediastinum is defined as an abnormal accumulation of air within the mediastinum. It occurs most often when increased alveolar pressure leads to alveolar rupture, and less frequently when there is perforation of the tracheobronchial tree.2–4 Subcutaneous emphysema may be observed in association with pneumothorax or pneumomediastinum once pressure gradients allow air to spread via the fascia to the surrounding soft tissues, mediastinum and/or retroperitoneum.5–6

We report a case of a 62-year-old woman with a diffuse lung disease under observation, whose chest tomography (CT) suggested hypersensitivity pneumonitis and bronchoalveolar lavage revealed lymphocytic alveolitis. As there was no relevant occupational exposure, a histological confirmation was requested. Transbronchial cryobiopsies were performed and, during this procedure, subcutaneous emphysema and bilateral pneumothorax developed. Figure 1 reveals subcutaneous emphysema—swelling of neck, face and periorbital regions associated with crackling in the neck. Figure 2 shows pneumothorax and pneumomediastinum in chest X-ray. Figures 3 and 4 are CT images revealing subcutaneous emphysema, right pneumothorax and pneumomediastinum. The patient was admitted to an intermediate care unit for monitoring and support therapy including oxygen. In addition, pneumothorax drainage was performed. The patient had a gradual improvement. The histopathological examination suggested extrinsic allergic alveolitis, therefore, immunosuppressive therapy was initiated. We report two rare complications of transbronchial biopsy: subcutaneous emphysema and pneumomediastinum. Their approach is not standardised. Each case must be assessed individually.

Figure 1 Subcutaneous emphysema—swelling of neck, face and periorbital regions.

Figure 2 Pneumothorax and pneumomediastinum in the chest X-ray. Narrow arrows exhibiting pneumothorax, large arrow exhibiting the tracking of air by the side of the pericardium on the posteroanterior chest X-ray.

Figure 3 Chest tomography images revealing subcutaneous emphysema, right pneumothorax and pneumomediastinum.

Figure 4 Chest tomography images revealing subcutaneous emphysema, right pneumothorax and pneumomediastinum.
Learning points

Pneumomediastinum and subcutaneous emphysema are rare complications of transbronchial biopsy
The approach to these is support therapy, and individual assessment should be applied.

Competing interests  None declared.
Patient consent  Obtained.
Provenance and peer review  Not commissioned; externally peer reviewed.

REFERENCES