CASE REPORT

Minor trauma resulting in massive subcutaneous emphysema and pneumomediastinum

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KEYWORDS
Pneumothorax; Pneumomediastinum; Blunt trauma; Subcutaneous emphysema

Summary
A 79-year-old woman was admitted after a fall at home. Crepitations were detected on palpation of the chest, neck, and face. A chest X-ray film and Computed tomography revealed massive subcutaneous emphysema and pneumomediastinum. Very rarely, as in the present case, rib fracture results in laceration of the pleura, causing subcutaneous emphysema.

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Figure 1 A. A chest X-ray film showing massive subcutaneous emphysema. B. Chest Computed tomography at the level of the inferior pulmonary veins demonstrating pneumomediastinum, and massive subcutaneous emphysema.

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A 79-year-old woman was admitted four hours after a fall at home. The patient complained of right chest pain and on examination swelling of the chest, neck, face and around the eyes was noticed. Crepitations were detected on palpation of the swollen areas. Vital signs were normal, and the oxygen saturation was 95% while the patient was breathing ambient air. A chest X-ray film (Fig. 1A) revealed massive subcutaneous emphysema. Computed tomography (Fig. 1B) demonstrated fracture of four ribs, small right sided pneumothorax, pneumomediastinum, and massive subcutaneous emphysema. The patient received supportive care and made a full recovery.

Pneumomediastinum develops following a sequence of events that include alveolar rupture, air dissection along the bronchovascular sheath, and free air reaching the mediastinum. Blunt trauma usually causes pneumomediastinum, as a consequence of traumatic disruption of the trachea-bronchial tree. Very rarely, as in the present case, rib fracture results in laceration of the parietal and visceral pleura, resulting in pneumothorax that extends through the bronchovascular layers to the mediastinum and further to vascular sheaths within the neck, causing subcutaneous emphysema.

**Conflict of interest statement**

All authors have no conflicts of interest to disclose.