Pneumomediastinum associated with interstitial lung disease

Clementine Bostantzoglou[1], Vasiliki Delimpoura[1], Theodoros Katsikas[2], Theoplasti Grigoratou[1], Mina Gaga[1]

[1]7th Pulmonary Department and Asthma Center, Athens Chest Hospital "Sotiria", Athens, Greece
[2]3rd Internal Medicine Department, Tzaneio Hospital, Piraeus, Greece

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- Interstitial lung disease

A 79 year old female with a history of interstitial lung disease was referred from her family doctor due to escalating dyspnea and cervical swelling, over 2 weeks. Physical examination revealed bilateral crackles on auscultation, crepitus over the anterior chest and low saturation, 85% on 2L/min supplemental oxygen via nasal cannula. Blood work showed white cell count of $12.5\times10^9\ L^{-1}$ (normal range: $4–11\times10^9\ L^{-1}$) and a C-reactive protein of $10mg\cdot L^{-1}$ (normal range: $<5mg\cdot L^{-1}$). A chest CT was performed and confirmed the diagnosis of secondary pneumomediastinum and pneumothorax. Further CT findings included subcutaneous emphysema, bilateral ground glass opacities, interlobular septal thickening, calcified mediastinal lymph nodes and traction bronchiectasis (Fig. 1, 2, 3). Patient was treated with a course of antibiotics and high concentration of oxygen and was discharged clinically improved after a week.

Pneumomediastinum is the presence of air in the mediastinum. Louis Hamman first described it in 1939, hence the associated "Hamman crunch", defined as crepitus synchronized with heartbeat, absent in this case. Pneumomediastinum is usually the result of rupture of the alveoli due to a marked increase in intraalveolar pressure, and in case of severe ILD, the result of ruptured paracardiac blebs, due to the distortion of lung architecture. It may present with dyspnea, odynophagia, voice hoarseness, or retrosternal chest pain. Although not supported by abundant evidence, treatment with high flow oxygen, is usually applied. Studies suggest that the mechanism of resolution is that, by breathing 100% oxygen, nitrogen is dissipated from the blood, thus increasing gas absorption gradient. It is necessary to include pneumomediastinum in the differential diagnosis of dyspnea, especially in the presence of underlying interstitial lung disease.

COMPETING INTERESTS

All authors declare that they do not have a financial relationship with a commercial entity that has an interest in the subject of this manuscript. No conflict of interest to declare.

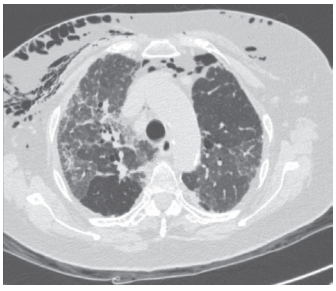

FIGURE 1.

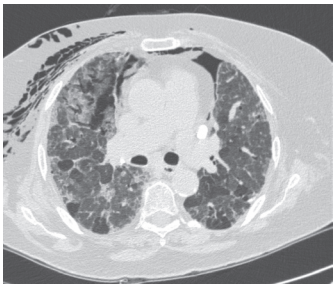

FIGURE 2.

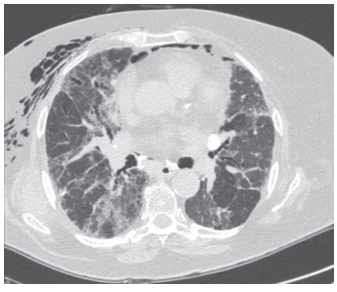

FIGURE 3.

Correspondence:
Clementine Bostantzoglou MD, MSc, 7th Pulmonary Department, Athens Chest Hospital "Sotiria", 152 Mesogion Ave, 11527, Athens, Greece;
Tel.: +30 210 7763306, Fax: +30 210 77681911,
e-mail: ninabostantzoglou@gmail.com

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