ACTA RADIOLÓGICA PORTUGUESA
September-December 2020 | Vol 32 nº 3 |29-30

Images of Interest / Imagens de Interesse

A Severe Case of Pneumomediastinum

Um Caso Grave de Pneumomediastino

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Abstract

Pneumomediastinum is defined by the presence of air in the mediastinum. It can be spontaneous or secondary to several conditions as trauma, anatomic airway anomalies, respiratory infections, bronchiectasis or exacerbation of asthma, chronic obstructive pulmonary disease or interstitial lung disease (ILD). We present a case of the 86-year-old male admitted to the hospital due to pneumonia, who developed an exuberant pneumomediastinum, with cervical and thoracic subcutaneous emphysema and bilateral pneumothorax. He had a previous chest computed tomography (CT) scan revealing fibrosing ILD, unknown before. A new chest-CT scan revealed features of ILD exacerbation. We observed rapid clinic deterioration, with circulatory shock, with progressive deterioration, leading to death.

Keywords

Pneumomediastinum; Subcutaneous emphysema; Interstitial lung disease.

Resumo

O pneumomediastino é definido pela presença de ar no mediastino. Pode ser espontâneo ou secundário a diversas condições como traumatismo, alterações anatómicas da via aérea, infeções respiratórias, bronquiectasias ou exacerbação de asma, doença pulmonar obstrutiva crónica ou doença pulmonar intersticial. Os autores apresentam o caso de um homem de 86 anos, internado por pneumonia, que desenvolveu um pneumomediastino exuberante, enfisema subcutâneo cervical e torácico e pneumotórax bilateral. O doente tinha uma tomografia computorizada (TC) de tórax prévia que revelou DPI fibrosante, antes desconhecida. Realizou novamente TC de tórax, que mostrou achados compatíveis com exacerbação de DPI. Constatado rápido agravamento clínico, com choque circulatório, com progressiva deterioração levando ao óbito.

Palavras-chave

Pneumomediastino; Enfisema subcutâneo; Doença pulmonar intersticial.

86-year-old male, non-smoker, medical history of cardiac failure and chronic kidney disease, presented at emergency department with 8-month evolution of dyspnea and dry cough, progressively worsening. On examination the patient had tachypnea, oxygen saturation of 85% on air and diffuse crackles in lower lung area. Chest radiography showed bilateral inferior opacities. He was admitted for pneumonia with hypoxemic respiratory failure and completed antibiotic treatment, without recovery. Chest computed tomography (CT) scan showed fibrosing interstitial lung disease (ILD), suggestive of non-specific interstitial pneumonia pattern. The patient developed rapid clinical deterioration with circulatory shock. In spite of responding to vasoactive agents, he maintained dyspnea and extensive cervical and thoracic subcutaneous emphysema was noticed. He repeated a chest-CT scan revealing subcutaneous emphysema, bilateral pneumothorax (Fig.1 A-B, blue and yellow arrows, respectively) and an exuberant pneumomediastinum, with new inferior ground glass opacities (Fig.1C-D, red arrow and asterisk), meaning ILD

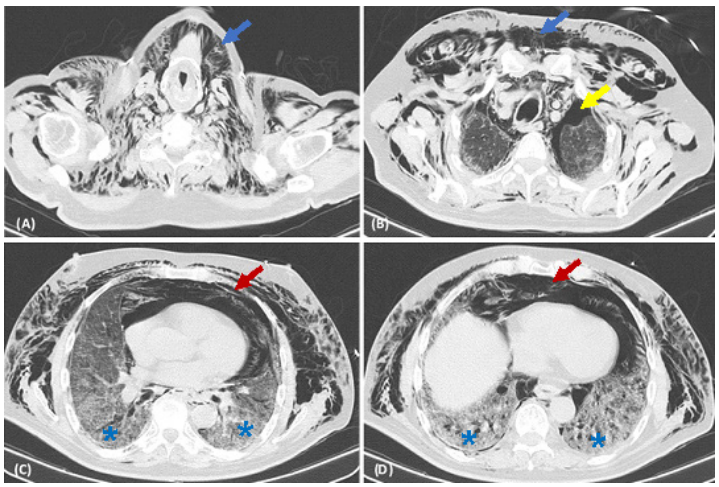

Figure 1 – (A) and (B) Axial chest-CT scan image showed cervical and thoracic subcutaneous emphysema (blue arrows), and apical bilateral pneumothorax (yellow arrow). (C) and (D) Axial chest-CT scan image showed an exuberant pneumomediastinum (red arrows) and new inferior ground glass opacities (asterisks), superimposed to fibrosing nonspecific interstitial pneumonia pattern, meaning ILD exacerbation.

exacerbation. He had no indication for invasive measures and progressed with rapid deterioration and death.

Pneumomediastinum is usually a benign condition, with treatment directed to symptoms relief. Increase in alveolar pressure lead to rupture of the alveoli, causing dissection of air along peribronchial and perivascular sheets.[1] In cases of underlying pulmonary fibrosis, rupture of blebs and cysts contribute to the development of this condition.[1,2] Given the changes in pressure gradients, the air can dissect to subcutaneous tissue and also pass to the pleura resulting in subcutaneous emphysema and pneumothorax, respectively.[2] In rare cases, pneumomediastinum may adversely progress to continuous accumulation of air, with vascular and tracheal obstruction, leading to fatal cardiac tamponade.[1,2]

Received / **Recebido** 23/06/2020
Acceptance / **Aceite** 11/09/2020

Ethical disclosures / Divulgações Éticas

Conflicts of interest: The authors have no conflicts of interest to declare.
Conflitos de interesse: Os autores declaram não possuir conflitos de interesse.
Financing Support: This work has not received any contribution, grant or scholarship.
Suporte financeiro: O presente trabalho não foi suportado por nenhum subsídio ou bolsa.
Confidentiality of data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.
Confidencialidade dos dados: Os autores declaram ter seguido os protocolos do seu centro de trabalho acerca da publicação dos dados de doentes.
Protection of human and animal subjects: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).
Protecção de pessoas e animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial.

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