SPONTANEOUS PNEUMOMEDIASTINUM AND SUBCUTANEOUS EMPHYSEMA AS THE FIRST MANIFESTATION OF ASTHMA

Margarida Vicente-Ferreira*,△, Diana Mota Almeida*, Cátia Granja*, Filipa Inês Cunha* and Nádia Brito*

*Department of Pediatrics, Hospital Distrital da Figueira da Foz, Figueira da Foz, Portugal, △Department of Pediatrics, Centro Hospitalar e Universitário de São João, Porto, Portugal

ABSTRACT

KEYWORDS spontaneous pneumomediastinum, subcutaneous emphysema, asthma

Case report

A 10-year-old boy with a personal history of rhinitis, atopic dermatitis, and allergen sensitivity for dust mites, grasses, and cats, without a relevant family history, was admitted to Emergency Department with wet cough and posterior thoracic pain with a one-week course, without fever.

Physical examination showed moderate signs of respiratory difficulty, with an oxygen saturation of 93% (FiO₂ 21%), and lung auscultation had bilateral wheezing. The palpation of cervical and supraclavicular regions revealed subcutaneous crepitations. The blood workup revealed a C-Reactive protein of 15.76 mg/L and erythrocyte sedimentation rate of 21 mm/h.

Chest radiography (figure 1) showed a lucency surrounding the mediastinal contour and outlining the mediastinal structures compatible with pneumomediastinum and supraclavicular hypotransparent areas compatible with subcutaneous emphysema. The patient was hospitalized and treated with oxygen therapy, inhaled bronchodilators (salbutamol and ipratropium bromide), systemic corticosteroids, analgesia, and rest. He was discharged on day 4 recovered.

Was referred to pediatric consultation and performed spirometry with bronchodilatation test (6 months after de acute phase) that revealed bronchial obstruction with a positive bronchodilation test for metacolin with the final diagnosis of asthma and subsequent therapeutic adjustments/follow-up.

Figure 1: Posteroanterior (PA) and lateral radiograph depicting pneumomediastinum. There is a lucency surrounding the mediastinal contour and outlining the mediastinal structures (yellow arrows). On the PA radiograph we can see air between the diaphragm and pericardium (orange arrow), representing the continuous diaphragm sign. Note also the presence of subcutaneous emphysema in the neck (asterisks).

Discussion

Spontaneous pneumomediastinum is a rare pediatric condition. Usually, it has a benign and self-limited course and is more frequent in the masculine gender [1-3]. Thoracic pain, dyspnea, and subcutaneous emphysema [3] are the classic diagnosis triad, and chest radiography is usually the only diagnostic test required...
In pediatrics, asthma seems to be the clinical condition most frequently associated with the occurrence of this event [5].

**Conclusion**

The authors pretend to report a rare initial manifestation of asthma, and the importance of accurate clinical examination and appropriate imagiology exams to ensure adequate diagnosis, management and follow-up of this chronic condition.

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**Conflict of interest**

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**References**


