

Lung Metastases of Soft Tissue Sarcoma Revealed by Bilateral Spontaneous Pneumothorax

Kenza El Hadri^{1*}, B. Slioui¹, A. Mouhsine¹, E. Atmane¹

¹Department of Radiology, Avicenne Military Hospital, Faculty of Medicine and Pharmacy, Marrakech Cadi Ayad University, Morocco

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*Corresponding author: Kenza El Hadri

Department of Radiology, Avicenne Military Hospital, Faculty of Medicine and Pharmacy, Marrakech Cadi Ayad University, Morocco

Abstract

Case Report

Spontaneous pneumothorax is a relatively rare complication of metastatic lung tumors. In most of the previously reported cases, pulmonary metastases associated with spontaneous pneumothorax tended to originate from osteosarcoma or soft-tissue sarcomas. We hereby report a case of a bilateral spontaneous pneumothorax, in a 45 years-old female revealing lung metastasis of a soft tissue sarcoma.

Keywords: Lung metastases, soft tissue sarcoma, bilateral spontaneous pneumothorax.

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INTRODUCTION

Sarcoma comprises a heterogeneous group of histologic subtypes with a propensity to metastasize to the lungs [1]. Malignancy-associated secondary spontaneous pneumothorax (MSSP) has an incidence of 1% with a risk for recurrence of 9.4% reported in association with sarcomas, histiocytoma, malignant thymoma, and cancers of the breast and thyroid [2]. Spontaneous bilateral pneumothorax is a rare clinical entity with a prevalence of 1.3% of all spontaneous pneumothoraces [3]. The early diagnosis of pulmonary metastasis may be critical for planning effective therapy

[3]. For this reason, chest CT screening should be considered [4].

CASE REPORT

We report the case of a 45-year-old female diagnosed with soft tissue sarcoma of the left thigh one month ago. No treatment was instituted. She presented with sudden dyspnea and bilateral chest pain. On examination, he was tachycardic and tachypnoeic and had normal blood pressure. A Chest CT scan was done and showed bilateral hydropneumothorax with multiple metastatic lung cysts and nodules with central cavitations (figure 1).

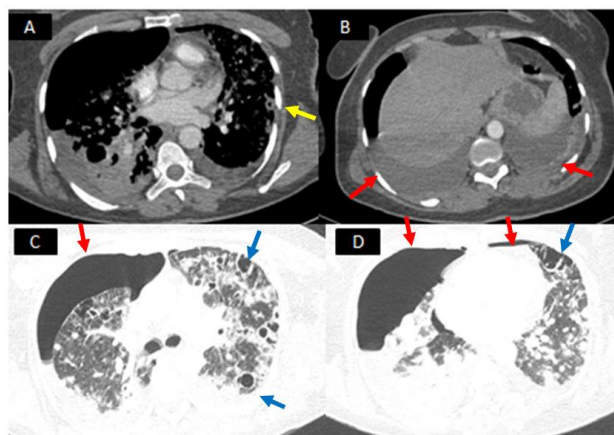


Figure 1: Chest CT scan with soft tissue window (A & B) and without (a) and lung window (C & D) shows bilateral hydropneumothorax (yellow arrow) with multiple metastatic lung cysts (blue arrow) and nodules with central cavitations (yellow arrow)

DISCUSSION

Sarcoma comprises a heterogeneous group of histologic subtypes with a propensity to metastasize to the lungs [1].

Spontaneous pneumothorax (SP) usually originates from the rupture of apical bullae or subpleural blebs and is only uncommonly with primary or secondary pulmonary malignancy.

Its rare occurrence in patients with metastatic lung tumors is predominantly in cases of sarcoma [5]. Malignancy-associated secondary spontaneous pneumothorax contributes to 1% of all spontaneous pneumothoraces [6, 7]. 2% of all patients with metastatic pulmonary deposits develop SP. Of all spontaneous pneumothorax, only 1.3–1.9% of cases present with simultaneous bilateral spontaneous pneumothorax [2, 8].

Various mechanisms have been implicated to explain the pathophysiology of spontaneous pneumothorax in patients with malignancies [9]. The proposed pathogenetic mechanisms in MSSP are as follows [2]:

- ✓ Transpleural rupture of cystic lung metastasis.
- ✓ Rupture of a cyst or necrotic lung nodules.
- ✓ Pleural metastasis.
- ✓ Chemotherapy-induced tumor cavitation.

In our patient, we can hypothesize that the bilateral pneumothorax developed secondary to the rupture of the cyst and necrotic lung nodules.

Chest computed tomography (CT) is considered to be the gold standard for the diagnosis of a pneumothorax. It has a much higher sensitivity in comparison to a chest X-ray [10].

CONCLUSION

Simultaneous bilateral spontaneous pneumothorax is a rare but potentially fatal complication of sarcoma. This is especially true for patients with metastatic lung lesions or those receiving chemotherapy. Consequently, a clinician needs to have a high level of suspicion for pneumothorax if the patient presents with symptoms like dyspnea and pleuritic chest pain.

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