

<https://doi.org/10.29289/259453942025V35S1133>

Metastatic chest wall sarcoma invading the breast: a rare case report

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Objective: To report a rare case of metastatic chest wall sarcoma, invading the breast. **Methods:** This is an epidemiological, observational, and descriptive study, submitted and approved by the ethics committee (CAAE: 76870023000005553; Opinion: 7392920). **Results:** Woman, 59 years old, followed up for fibroadenoma in the right breast (mammography in November/2022-BI-RADS 2). In January 2023, she noticed a rapid and progressive increase in the right breast associated with dyspnea at rest. A chest computed tomography scan was performed, which showed a 12 cm transthoracic invasive lesion contiguous to the right breast, an endothoracic part, massive pleural effusion, and lung collapse. Core biopsy of the lesion and right thoracentesis were performed. The histopathological examination showed marked cytological atypia, high mitotic activity, infiltration of adipose tissue, and striated muscle compatible with high-grade sarcoma. Immunohistochemistry was negative for cytokeratin and epithelial membrane antigen (E29) and positive for smooth muscle actin (1A4). A new computed tomography scan showed an increase in the lesion (16.5 cm), right lung collapse, destruction of the sixth right costal arch, and in the left lung, basal atelectasis and metastatic implants. There was a previous history of total hysterectomy in 2020 due to abnormal uterine bleeding, probable leiomyomatosis, but the histopathological result was never recovered. After reviewing the medical records, the aforementioned examination was found, confirming a 9.0 cm uterine leiomyosarcoma with extensive necrosis. Given the findings, the diagnosis of progression of the uterine disease was confirmed, with sarcomatous metastasis to the breast, chest wall, and lung. After evaluation by the thoracic surgery and mastology sectors, surgery was ruled out and the patient was referred for oncological treatment after respiratory stabilization. Despite antibiotic therapy and thoracentesis, the patient developed septic shock and respiratory failure, resulting in death. **Conclusion:** This is an extremely rare case of metastatic sarcoma to the breast.

Keywords: sarcomas; neoplasm metastasis; breast neoplasms; leiomyosarcoma.