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Management and Evolution of Breast Cancer with Atypical Metastases in the Upper Limb: A Case Report

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ABSTRACT

Introduction: Breast cancer is the most common cancer in women; it often metastasizes to bone, liver, and lungs. However, atypical secondary sites can be difficult to diagnose and require special attention. Early and specialized management improves survival and, above all, quality of life.

Case Study: We report the case of patient M.A., aged 55, with no known significant medical history, who was treated in 2017 for invasive lobular carcinoma of the left breast (Luminal B). She underwent radical surgery, adjuvant chemotherapy and radiotherapy, and hormone therapy.

In March 2023, follow-up examination revealed multiple suspicious ipsilateral axillary lymph nodes. Radiological evidence of these lymph nodes persisted despite multiple surgical revisions, leading to the initiation of two lines of therapy, with which the patient remained stable for one year.

In May 2025, she presented with a swelling on the anterior aspect of her ipsilateral arm. Further investigation suggested a secondary soft tissue metastasis of breast origin, confirmed by immunohistochemistry (HER2+). Three lines of therapy were initiated, but without therapeutic benefit, hence the indication for radical surgery, specifically amputation of the left upper limb.

Conclusion: This case illustrates that the symptoms of atypical metastases can be difficult to diagnose, highlighting the importance of regular and close clinical monitoring to improve the quality of care and survival rates.

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INTRODUCTION

Breast cancer is the most common cancer in women; it often metastasizes to the bones, liver, brain, and lungs. However, atypical secondary sites can be difficult to diagnose and require special attention. Early and specialized management improves survival and, above all, quality of life. This atypical or unusual metastatic location corresponds to the spread of cancer cells from outside the breast to uncommon sites affecting any other organ or area that is not usually involved (skin, eyelids, digestive tract, thyroid, kidney, etc.), while remaining breast cancer histologically.

These locations are often masked by nonspecific symptoms, which delays diagnosis. The overall prognosis remains poor, as the presence of atypical metastases reflects disseminated and poorly controlled disease, even though treatment is systematically tailored to the individual (chemotherapy, targeted therapy, hormone therapy, palliative radiotherapy, and sometimes surgery for symptomatic lesions). A biopsy of the metastasis site is essential to confirm the breast origin (immunohistochemistry for ER/PR/HER2 and E-cadherin, especially in cases of lobular carcinoma) and to avoid confusion with another primary cancer.

Management is carried out in a multidisciplinary consultation (medical oncology, surgery, radiotherapy, and imaging), taking into account the patient's hormonal status, molecular profile, and overall health.

OBSERVATION

We report the case of patient M.A., aged 55, with no known significant medical history. In 2017, she was diagnosed with invasive lobular carcinoma of the left breast, Luminal B type (HR positive, HER2 negative, and Ki 67% to 40%). The staging workup was negative.

She underwent radical surgical treatment (mastectomy and lymph node dissection) using the Patey technique. The pathology report classified the tumor as pT2 N3. Adjuvant chemotherapy (8 cycles spaced 21 days apart) was administered, followed by adjuvant radiotherapy. Treatment ended at the end of 2017. Adjuvant hormone therapy with anastrozol was prescribed for 7 years starting in January 2018, and concurrently, regular follow-up was initiated, including clinical and paraclinical examinations.

In March 2023, the follow-up examination revealed multiple suspicious ipsilateral axillary lymph nodes and contralateral lymph nodes. The contralateral lymph node biopsy was consistent with a benign condition, and she was therefore referred to the Gynecology department for further lymph node dissection after attending a multidisciplinary team meeting. Due to the radiological persistence of these lymph nodes despite multiple surgical procedures, she was started on a standard dual chemotherapy regimen (Capecitabine 2000 mg/m² twice daily on days 1-14 + Carboplatin AUC5 on day 1; 21-day cycle). After four cycles; A significant increase in lymph node size was observed, coupled with poor tolerance to capecitabine. This necessitated the use of second-line chemotherapy: gemcitabine 1000 mg/m² on days 1 and 8, and oral navelbine (metronomic formulation) 40 mg/day on days 1, 3, and 5, on a 21- day cycle. After three cycles, a partial response was observed, with a stable condition at CT 8. Treatment continued for one year as the patient remained stable.

In May 2025, she presented with a swelling on the anterior aspect of her ipsilateral arm; an investigation carried out suggested a secondary localization of the soft tissues of mammary origin, confirmed by immunohistochemistry (HR- HER2+, KI67 50%);

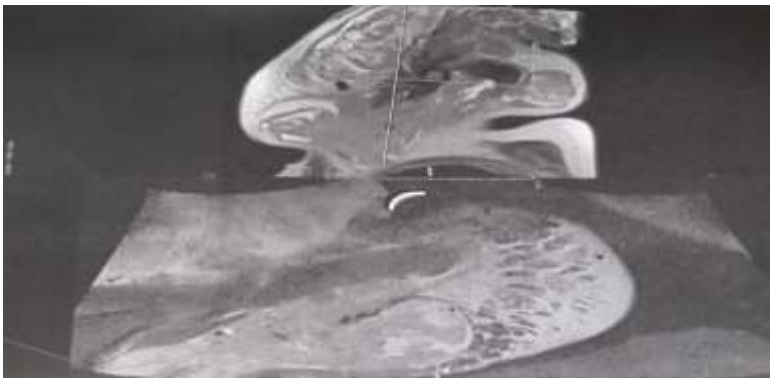
Her medical file was presented to the department staff, from which the indication for a dual anti-HER2 blockade was considered: "targeted therapy such as Trastuzumab 8 mg/kg for the first course then 6 mg/m2 from the second course onwards, combined with Lapatinib 1250 mg, “5 tablets/day; 21-day course”; Clinical evaluation revealed tumor progression after 4 cycles, which is why capecitabine was added in its metronomic form (3 tablets daily continuously) due to poor tolerance of the standard regimen in the previous treatment line. Lapatinib was discontinued (due to exacerbated intolerable side effects). After 3 cycles, clinical progression persisted, leading to a switch to another line consisting of trastuzumab at the same dosage and eribuline at 1.23 mg/m² on days 1 and 8, on a 21-day cycle.

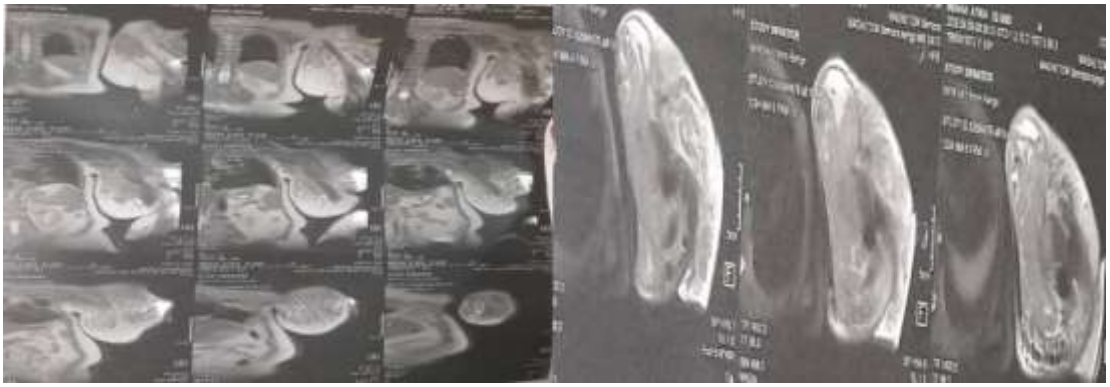
A dramatic clinical response of over 50% was observed after 2 cycles, with resolution and reduction of edema and volume in the upper arm. A skin biopsy was performed to test for susceptible or resistant organisms, resulting in hospitalization in the supportive care unit and the initiation of effective antibiotic therapy tailored to the bacteriological results. Our decision was to continue this treatment line, but unfortunately, we are We encountered a discontinuation of the Eribulin molecule after the fourth cycle.

We were greatly surprised; clinical progression occurred after two further cycles without it. The case was presented again at the multidisciplinary oncology- gynecology and digestive oncology consultation meeting for discussion of upper limb surgery. The recommended course of action was to try another systemic treatment protocol to minimize tumor volume and request a CT angiogram at the same time.

As the patient is in good general condition, our decision was to maintain trastuzumab and add Taxol at 175 mg/m², administered every 21 days. A radiological evaluation by CT angiography, as planned, was performed after the third cycle. This revealed significant cutaneous and subcutaneous infiltration of the left upper limb, the presence of multiple nodules and masses in the soft tissues of the same arm, suggestive of secondary lesions, the largest measuring 180 x 160 x 150 mm, and circumferential encasement of the brachial artery by the mass, with close contact to the origins of the radial and ulnar arteries, without partial invasion.

An MRI of the left arm revealed significant thickening of the subcutaneous soft tissues extending to the ipsilateral axillary region, with dissecting edema and fatty lobules. Multiple tissue formations formed a very large, irregularly shaped, multilobulated mass measuring approximately 200 x 186 x 170 mm. A medical opinion from the trauma department has been requested and is still pending.





CONCLUSION

Breast cancer metastasis to the soft tissues of the ipsilateral upper limb (same side as the affected breast), in the presence of ipsilateral axillary lymph node involvement, corresponds to a locoregional/dermal or subcutaneous malignant extension, not limited to the breast and the axilla.

Location to the ipsilateral upper limb is considered a route of lymphatic or hematogenous spread, rather than a simple local extension of the breast tumor. Ipsilateral axillary involvement is a major prognostic factor and indicates regional lymph node spread, with an increased risk of distant metastasis (including to the soft tissues).

This observation illustrates that the symptoms of atypical metastases can be difficult to diagnose, highlighting the importance of regular and close clinical monitoring to prevent this type of invasion or to detect recurrences and/or metastases early in order to improve the quality of care and survival rates.

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