

Unveiling an Uncommon Manifestation: Scalp Lesion Arising from Breast Cancer Metastasis in an Invasive Lobular Carcinoma Patient

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Abstract

Breast cancer is the most prevalent cancer in women globally, often leading to distant metastasis in the lung, liver, or bones. Cutaneous metastasis represents an uncommon pattern in breast cancer, but when observed, it tends to manifest in the thorax and upper abdomen, primarily due to lymph node involvement. Therefore, occurrences of cutaneous metastasis on the scalp and extremities are infrequent. Moreover, invasive lobular carcinoma metastasizing to remote skin is rare among the breast cancer. This report presents a case of cutaneous metastasis of invasive lobular carcinoma to the scalp in a patient treated for breast cancer six years ago, with no signs of local recurrence or metastasis to other organs.

Keywords: Scalp Lesion; Skin Metastasis; Neoplasm Extension.

Introduction

Breast cancer is one of the most prevalent malignancies worldwide, affecting millions of individuals each year. While advancements in early detection and treatment have improved outcomes, the propensity for breast cancer to metastasize to distant sites remains a significant clinical challenge. Among the various metastatic locations, unusual sites such as the scalp are relatively rare but can present unique diagnostic and therapeutic dilemmas. This article explores a case of an unusual scalp lesion resulting from breast cancer metastasis in a patient with invasive lobular carcinoma [1-3].

Methodology

A 56-year-old female presented to the dermatology clinic with a solitary scalp lesion. The lesion appeared as a firm, painless nodule with irregular borders, measuring approximately 2 centimeters in diameter. The patient had a history of invasive lobular carcinoma of the breast, diagnosed five years ago, for which she underwent mastectomy followed by adjuvant chemotherapy and hormonal therapy. Her recent oncologic evaluations, including imaging studies and tumor markers, had shown no evidence of disease recurrence. However, due to the unusual nature of the scalp lesion and the patient's history of breast cancer, a biopsy was performed to evaluate the underlying pathology [4-6].

Diagnosis: Histopathological examination of the scalp lesion revealed clusters of malignant cells infiltrating the dermis and subcutaneous tissue. Immunohistochemical staining showed positivity for estrogen receptor (ER) and progesterone receptor (PR), consistent with the primary breast cancer diagnosis [7-8]. Further molecular analysis confirmed the presence of human epidermal growth factor receptor 2 (HER2) overexpression, indicating a triple-positive breast cancer phenotype. Subsequent imaging studies, including positron emission tomography-computed tomography (PET-CT), demonstrated no evidence of additional metastatic lesions elsewhere in the body. Given the diagnosis of breast cancer metastasis to the scalp, multidisciplinary consultation involving medical oncology, radiation oncology, and dermatology was conducted to formulate an optimal treatment strategy. The patient underwent localized radiation therapy to the scalp lesion to achieve local disease control. Additionally, systemic therapy was intensified with the initiation of targeted HER2-directed therapy combined with hormonal therapy to address both

local and systemic disease burden. Regular follow-up assessments, including clinical examinations and imaging studies, were scheduled to monitor treatment response and disease progression [9,10].

Discussion

Breast cancer metastasis to the scalp is a rare phenomenon, with an estimated incidence of less than 1%. Invasive lobular carcinoma, characterized by its unique growth pattern and propensity for multicentricity, poses a particular risk for distant metastasis, including uncommon sites such as the scalp. The diagnosis of scalp metastasis may present challenges due to its nonspecific clinical presentation and rarity, often necessitating histopathological confirmation for accurate characterization. Treatment approaches for scalp metastasis typically involve a combination of local therapies such as surgery or radiation, along with systemic therapies tailored to the underlying breast cancer subtype.

Conclusion

Scalp lesions arising from breast cancer metastasis, though uncommon, can occur in patients with invasive lobular carcinoma and warrant thorough evaluation and management. Clinicians should maintain a high index of suspicion for metastatic disease in patients with a history of breast cancer presenting with unusual cutaneous manifestations. Multidisciplinary collaboration is essential to optimize treatment outcomes and provide comprehensive care for these patients. Further research is needed to better understand the underlying mechanisms of metastasis to unusual sites and to explore novel therapeutic strategies for improving outcomes in this patient population.

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