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"Dermal Lymphatic Carcinomatosis as a Cutaneous Metastasis from EGFR-Positive lung Adenocarcinoma: A Case Report and Review."

Introduction: Cutaneous metastases are a relatively uncommon but clinically significant manifestation of internal malignancies, occurring in 0.7%–9% of all cases. Their presence usually indicates advanced systemic disease and carries a poor prognosis. Lung cancer is an infrequent source of cutaneous metastases, accounting for approximately 3–4% of reported cases, with adenocarcinoma being the most commonly associated histologic subtype. Clinical appearances can be highly variable, often mimicking benign dermatologic or inflammatory conditions, which may delay recognition and appropriate intervention. Timely identification is particularly important in patients with known malignancy, as new skin findings can signal disease progression, recurrence, or therapeutic resistance.

Case Presentation: We report a 65-year-old Caucasian woman with a four-year history of stage IV EGFR-positive lung adenocarcinoma. Her disease course was notable for metastases to the brain and bones, managed with craniotomy and targeted therapy with osimertinib. In August 2022, she presented with a new firm violaceous nodule with minimal scale on the left lower chest wall beneath the breast. Concurrent imaging revealed disease progression, including enlarging mediastinal lymph nodes and malignant pleural effusion. Punch biopsy of the cutaneous lesion demonstrated dermal lymphatic carcinomatosis consistent with metastatic lung adenocarcinoma. These findings confirmed systemic progression despite ongoing targeted therapy. She was transitioned to carboplatin and pemetrexed but deteriorated rapidly, ultimately developing hypoxic respiratory failure. She was transitioned to comfort care and passed away in September 2022.

Discussion: Cutaneous metastases from lung adenocarcinoma typically present as rapidly enlarging nodules on the chest, abdomen, or scalp. Rarely, malignant infiltration of dermal lymphatics leads to dermal lymphatic carcinomatosis. This may mimic cellulitis, inflammatory breast carcinoma, or other benign conditions. Accurate diagnosis requires biopsy, and immunohistochemical markers such as TTF-1 and Napsin A aid in confirming pulmonary origin. The presence of cutaneous metastases often indicates poor prognosis, with median survival ranging from four to six months. Cutaneous lesions may also reflect therapeutic resistance, underscoring the need to reassess systemic treatment and goals of care.

Conclusion: Cutaneous metastases are an uncommon but meaningful clinical finding in lung adenocarcinoma, signaling disease progression and often correlating with poor prognosis. Dermatologists and oncologists must maintain a high index of suspicion for new skin lesions in cancer patients. Prompt recognition and biopsy can guide timely management decisions and facilitate patient-centered discussions about prognosis and goals of care.