Carcinoma erysipeloides due to primary cutaneous squamous cell carcinoma

Sir,

Carcinoma erysipeloides is a rare variant of cutaneous metastasis. Although most commonly seen in patients with breast adenocarcinoma, it has also been associated with adenocarcinoma of the lung, tonsil, parotid, stomach, pancreas, rectum, colon, ovary, prostate and uterus.[1] There has been only one case report of carcinoma erysipeloides arising from cutaneous squamous cell carcinoma (SCC) and another case from SCC of unknown origin.[1,2] Clinically, carcinoma erysipeloides exhibits sharply-defined, erythematous, inflammatory papules and plaques with significant induration due to the blockage of dermal lymphatics. Its appearance often mimics erysipelas or cellulitis and poses a diagnostic challenge. In this article, we report a case of carcinoma erysipeloides arising from cutaneous SCC and discuss the clinical, histological and immunohistochemical (IHC) features used to diagnose this condition.

A 77-year-old Hispanic man was admitted to the University of Miami Miller School of Medicine in Miami after developing neutropenic fever and progressive swelling and erythema of his right thigh and lower leg 3 months after initiating carboplatin, paclitaxel and later cetuximab for cutaneous SCC. He was placed on broad-spectrum intravenous antibiotics with minimal response. On physical examination, the patient had pink to red, indurated, shiny papules coalescing into plaques on the right leg and thigh [Figure 1].

Three years prior, he underwent wide local excision of a poorly differentiated cutaneous SCC in the right popliteal fossa. The primary tumor was poorly differentiated, >2 mm in depth and >2 cm in size without any unusual subtype or any known vascular or perineural invasion.

Two years later, he developed a new nodule on the same leg that was diagnosed as recurrent SCC. At that time, the patient also had enlarged lymph nodes in his right inguinal area which were hypermetabolic under positron emission tomography scan. Right inguinal lymphadenectomy confirmed metastatic disease with 14 of 15 inguinal lymph nodes positive for SCC. There was no extracapsular spread.

During the course of the hospital admission, the patient's condition continued to worsen with the erythema rapidly extending from his right lower extremity to his right abdomen and chest within 2 weeks [Figure 2]. Shortly thereafter, the patient developed right-sided flank pain and breathing difficulty. Chest X-ray showed bilateral pleural effusions. He was referred to hospice and succumbed to his disease 2 weeks later.

Hematoxylin and eosin staining of a punch biopsy from the right leg showed large abnormal cells infiltrating superficial and deep lymphatic channels [Figure 3]. Cytokeratin staining (CK 5/6) of biopsies from the right leg and thigh lesions showed tumor cells within lymphatic vessels. Only a subset of tumor cells stained for epithelial membrane antigen (EMA) and histology was negative for carcinoembryonic antigen (CEA).

Carcinoma erysipeloides, also known as inflammatory carcinoma, is a rare form of cutaneous metastasis that presents as erysipelas-like well-demarcated, indurated, shiny and erythematous papules and plaques. The clinical features of inflammatory skin changes associated with this condition were first reported in a review of 28 cases in 1924 by Lee and Tannenbaum and the term "carcinoma erysipeloides" was introduced in 1931 by Rasch.[3,4] The shiny red appearance represents swelling and inflammatory skin changes caused by a heavy burden of tumor cells infiltrating, obstructing and disrupting dermal lymphatic vessels.[5]

The differential diagnosis of this presentation includes erysipelas, cellulitis, radiation dermatitis and deep vein thrombosis.[5] To

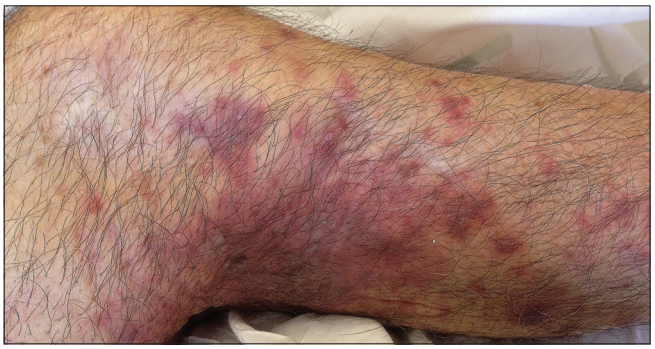

Figure 1: Pink to red, indurated, shiny papules coalescing into plaques on the right leg and thigh on initial presentation

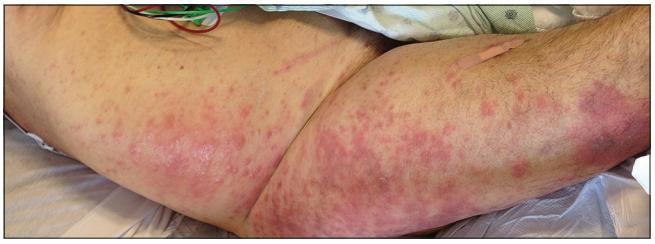

Figure 2: Rapid spread of edema and papular lesions from the right lower extremity to the right lateral abdomen within the first 2-week of hospitalization

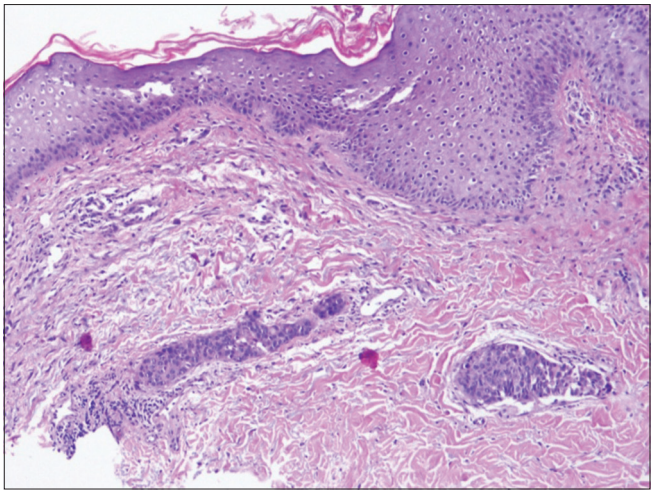

Figure 3: A punch biopsy from the right leg shows large abnormal cells infiltrating superficial and deep lymphatic channels (H and E, ×100)

differentiate carcinoma erysipeloides from other mimickers, skin biopsy should be performed, especially if there is high suspicion of cutaneous metastasis. It is important to consider this diagnosis in patients with a history of malignancy who present with an infection-like eruption that responds poorly to empirical antibiotics. Histologically, metastatic tumor cells are often found obstructing dermal lymphatic vessels.[1] The use of IHC can be invaluable in establishing the primary tumor type. Tumor cells positive for CK5/6 and EMA and negative for CEA are diagnostic features for SCC. However, when SCC is poorly differentiated, EMA positivity is lost as is the case for our patient.

Carcinoma erysipeloides usually appears after treatment of the primary malignancy with chemotherapy, radiation or surgical excision and one of the possible mechanisms include shedding of tumor cells into the lymphatic vessels which then metastasize to the skin.[1,5] Once skin metastasis occurs, there is a rapid progression of the disease as evident by the spread of erythema to the chest and abdomen within 2 weeks in our patient. Hence, it is important to diagnose this condition promptly to allow early intervention for slowing or stopping the systemic spread of disease.

In summary, we report a case of carcinoma erysipeloides associated with cutaneous SCC. In combination with a high index of clinical suspicion we highlight the usefulness of tissue biopsy along with IHC to assist physicians in recognizing carcinoma erysipeloides, as well as in establishing the primary malignancy. Although rare, SCC should be added to the list of primary cancers that are associated with carcinoma erysipeloides.

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Conflicts of interest
There are no conflicts of interest.

Suchismita Paul[1,2], Elizabeth Yim[1], Xiaolong Zhou[1], Erin Wei[1], Jeong Hee Cho-Vega[1,3], Clara Milikowski[3], Francisco Kerdel[1]

Departments of [1]Dermatology and Cutaneous Surgery and [3]Pathology, University of Miami Miller School of Medicine, [2]Department of Medicine, Jackson Memorial Hospital, Miami, Florida, USA

Correspondence: Dr. Francisco Kerdel, Department of Dermatology and Cutaneous Surgery, Florida Academic Dermatology, Voluntary Faculty, University of Miami Miller School of Medicine, 1444 North West 9th Avenue, Miami, FL 33136, Florida, USA.
E-mail: dr.kerdel@fadcenter.com

References

1. Yu KJ, Lee HE, Ho HC, Lee JC, Chang JW, Hong HS, *et al.* Carcinoma erysipelatoides from squamous cell carcinoma of unknown origin. Int J Clin Pract 2005;59:1104-6.
2. Nikolaou V, Stratigos A, Frangia K, Nikolaidis I, Syrigos K. Carcinoma erysipeloides deriving from a primary cutaneous squamous cell carcinoma. Int J Dermatol 2011;50:754-6.
3. Lee BJ, Tannenbaum NE. Inflammatory carcinoma of the breast: A report of twenty-eight cases from the breast clinic of the Memorial Hospital. Surg Gynecol Obstet 1924;39:580.
4. Rasch C. Carcinoma erysipelatoides. Br Dermatol Syph 1931;43:351-4.
5. Sharma N, Kaur T, Garg P, Puri KP. Carcinoma erysipeloides mimicking radiation dermatitis: A case report and review of literature. Our Dermatol Online 2014;5:262-3.

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