

Epidermotropic poorly differentiated adenocarcinoma of colon presenting as a diffuse erythematous petechial rash



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INTRODUCTION

Epidermotropic metastases from colorectal adenocarcinoma are very uncommon. Frequently, these metastases appear within 2 years after resection of the primary tumor and just like renal, breast, ovarian, and bladder cancer, disseminate to the skin through lymphatic and blood. The early recognition of cutaneous metastases establishes the management and prognosis for the patient by indicating a potential relapse. Less frequently, these findings are the first manifestation of the malignancy, facilitating an immediate therapeutic action.^{1,2}

We present an 87-year-old woman with a previous diagnosis of colonic adenocarcinoma, who presented to her primary care physician with an abdominal diffuse erythematous petechial rash of unknown etiology.

CASE REPORT

An 87-year-old woman was admitted to our institution for further investigation of chronic constipation and a diffuse abdominal erythematous petechial rash after a hemicolectomy because of invasive poorly differentiated adenocarcinoma of the colon. During a previous admission, she was found to have on imaging dilated bowel loops and retroperitoneal lymphadenopathy. On physical examination, an asymptomatic diffuse abdominal erythematous petechial rash was identified. A skin biopsy was performed, and treatable conditions such as low-grade lymphoma, coagulopathies, and vasculitis were within the differential diagnosis.

The histopathology of the skin showed a multifocal nodular infiltrate of enlarged atypical epithelioid cells with mucin, involving the deep and superficial dermis with extension into the epidermis. Vascular invasion was identified (Fig 1).

The histologic differential diagnosis included malignant melanoma, squamous cell carcinoma, and metastatic carcinoma. To distinguish among these entities, immunohistochemical stains for SOX10, CK5/6, p63, CK7, CK20, and CDX2 were performed and compared with appropriate controls. The tumor cells expressed CK20 and CDX2 and were negative for SOX10, CK5/6, p63, and CK7 (Figs 2 and 3).

The histopathology of prior hemicolectomy was reviewed and showed an invasive poorly differentiated adenocarcinoma with lymphatic permeation associated with tubule-villous adenoma. Cytologically, the primary tumor was composed of atypical epithelioid cells with some morphologic features like the tumor seen on the skin biopsy (Fig 4). The primary tumor was diagnosed 11 months preceding the cutaneous manifestations.

Overall, the histologic features and immunophenotype were compatible with the diagnosis of epidermotropic cutaneous metastasis of the patient's known adenocarcinoma. The clinical staging was consequently updated to IVB due to distant metastasis and regional lymph node involvement based on the American Joint Committee on Cancer protocol.

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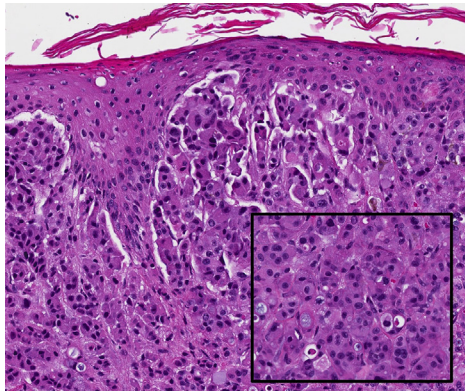


Fig 1. Representative composite image shows the epidermotropic poorly differentiated adenocarcinoma on hematoxylin-eosin stain. (Original magnifications $\times 10$ and $\times 40$ [inset]).

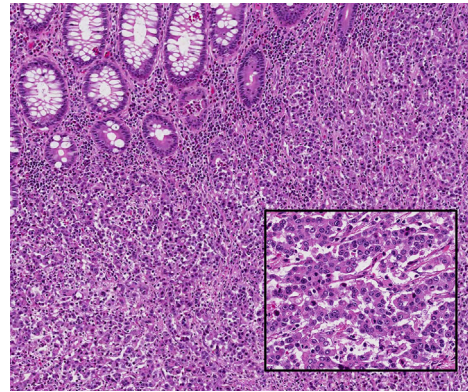


Fig 4. Representative composite image of primary tumor on hematoxylin-eosin stain. (Original magnifications $\times 10$ and $\times 40$ [inset]).

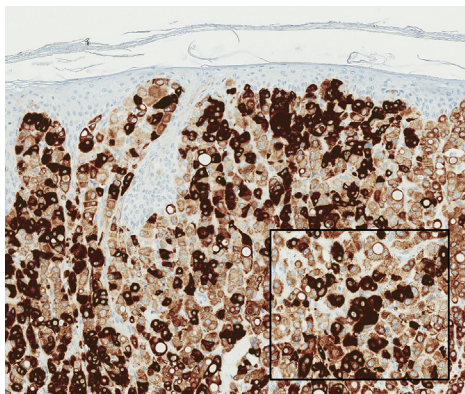


Fig 2. Representative composite image shows immunoreactivity with CK20. (Original magnifications $\times 12$ and $\times 40$ [inset]).

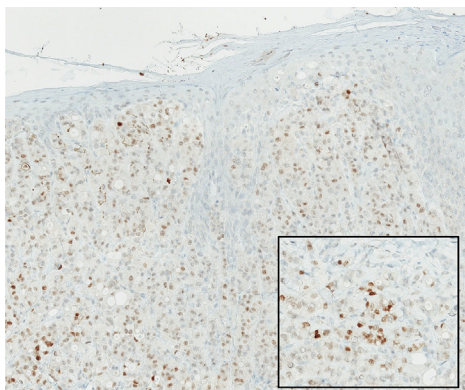


Fig 3. Representative composite image shows immunoreactivity with CDX2. (Original magnifications $\times 12$ and $\times 40$ [inset]).

DISCUSSION

It is estimated that only 0.7% to 9.0% of all malignancies metastasize to the skin. Breast and

lung carcinomas are the most common primary noncutaneous malignancies that metastasize to the skin in females and males, respectively, as they are the most frequent types of cancer worldwide. However, the most common cutaneous metastasis is melanoma, which comprises 45% of all cutaneous metastases. Less than 4% of cases are caused by a primary gastrointestinal malignancy.^{3,4}

The most common location for cutaneous metastases of colorectal cancer is the abdominal wall. Less frequently, it might involve the pelvis, back, chest, upper extremities, hallux, or head and neck area. However, very few cases have been labeled as an epidermotropic colorectal adenocarcinoma.⁵ The most commonly reported clinical appearance is of a single or multiple flesh-colored firm nodules (ie, Sister Mary Joseph nodule). In rarer cases, it may present as an indurated erythema with well-demarcated borders mimicking infection (ie, carcinoma erysipelatoides). A diffuse erythematous petechial rash, as seen in our patient, is an uncommon presentation. On histology, a nodular or infiltrative tumor is seen. However, it is often limited to the dermis with epidermal involvement much less frequently seen.⁶⁻⁸

Melanoma is the most common tumor to show epidermotropic cutaneous metastasis. Other solid tumors, such as epithelioid sarcoma and primary lung carcinoma have also been reported. The prevalence of epidermotropic carcinomas from the gastrointestinal tract is not well described in the literature. A case of metastatic cecal carcinoma with epidermotropism has been reported in Japan.^{9,10} Management may range from a wide local excision for isolated lesions to a palliative approach for extensive cutaneous metastases. Life expectancy after diagnosis of cutaneous metastases from adenocarcinoma of colon, ranges from 1 to 34 months.¹

In overall, it is important to consider an epidermotropic metastatic carcinoma when a tumor with epidermal involvement is seen on a skin biopsy. Our case additionally emphasizes the importance of including cutaneous metastases on the clinical differential diagnosis of an erythematous petechial rash in a patient with history of an internal malignancy.

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