Erythema ab igne masking cutaneous metastasis of colorectal adenocarcinoma

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Abstract

Skin metastasis commonly manifest as subcutaneous or intradermal violaceous nodules that coalesce with a firm rubbery appearance. Few cases reported an erythema *ab igne*-like appearance in the presence of internal malignancy. We report a case of metastatic colorectal adenocarcinoma with erythema *ab igne*-like presentation. We also review cases of erythema *ab igne* in association with internal malignancy.

Introduction

Although skin is the largest organ of the human body, cutaneous metastasis is quite uncommon with an incidence of 5.3%.[1] It is particularly rare for colorectal adenocarcinoma to metastasize to the skin.[2,3] Morphologically, cutaneous metastasis commonly manifest as subcutaneous or intradermal violaceous nodules that coalesce with a firm rubbery appearance.[4-6] Other reported manifestations include erythematous, plaques, bullous, and ulcerative lesions.[4-6] However, to the best of our knowledge, erythema *ab igne*-like presentation has never been reported as a feature of cutaneous metastasis. We report a case of colorectal adenocarcinoma cutaneous metastasis with erythema *ab igne*-like morphology.

Case Report

A 60-year-old female known to have sigmoid adenocarcinoma with peritoneal and omental metastasis on chemotherapy Presented with a two-month history of a progressive and asymptomatic periumbilical lesion. On examination, there was a solitary, red-brown, reticular, indurated, periumbilical plaque (Figure 1). The morphology of the plaque was vaguely suggestive of erythema *ab igne*. The patient gave a history of applying heat pad on the abdomen for 3 months to relieve the associated pain. Given the presence of induration and internal metastases, a skin biopsy was preformed to rule out cutaneous metastasis. Histopathological examination revealed cutaneous metastatic carcinoma consistent with colonic adenocarcinoma. The neoplastic cells were strongly positive for CK20 and negative for Chromogranin (DAK-A3) (Figure 2). The patient died a month later due to the metastatic adenocarcinoma.

Discussion

Malignancies, especially of colorectal origin, rarely metastasize to the skin. In two large studies, only 3 (0.1%) out of 2538 and 18 (4.4%) out of 413 colorectal cancer patients had cutaneous spread.[2,7] It is infrequently reported as the presenting sign of an occult colorectal cancer in only 0.05% of patients.[8] In addition it indicates an advanced stage and dismal prognosis, occurring years after diagnosis.[9,10]

Recognizing cutaneous metastases remains a challenge for clinicians due to the wide spectrum of presentations. The most commonly reported presentation of cutaneous metastasis of any malignancy is nodular lesions. Other less frequent presentations include inflammatory erythema, ulcers, plaques, blisters, and teleangectasia.[4-6] We report an atypical morphological manifestation of erythema *ab igne* with an underlying cutaneous metastasis that diag-

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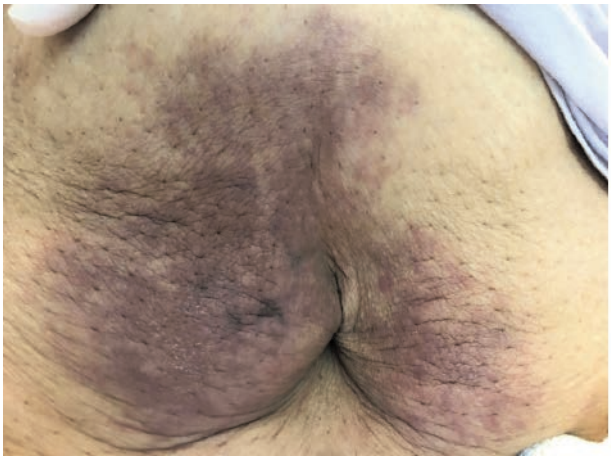

Figure 1. Periumbilical erythema *ab igne*.-like lesion.

nosed based on biopsy. A thorough search in the literature resulted in only 11 reports of incidental *ab igne* lesions, mostly with history of heat exposure, in patients diagnosed with malignancy (Table 1).[11-17] Interestingly, most patients were elderly males with gastrointestinal cancer. Erythema *ab igne* was observed mainly on the back followed by the abdomen which possibly reflect common sites of heat application. In addition, erythema *ab igne* lesions were the first sign of an occult internal malignancy in 50%. However, due to lack of a skin biopsy and positive history of heat application, secondary cutaneous malignancy was not shown in any of the reports.

Jones *et al.* suggested an explanation to the relation between erythema *ab igne* and malignancy. They hypothesized that erythema *ab igne* is the result of frequent application of heat to manage the pain associated

Table 1. *Ab igne* in the presence of history of malignancy.

Author, year	Age	Gender	Primary malignancy organ	Skin lesion site	Lesion detection	Heat exposure	Survival
Mok *et al*. 1984[12]	68	F	Pancreas	Back	Before Dx	No	Died
Ashby *et al*. 1985[13]	67	F	Breast	Buttock and thigh	Not mentioned	No	Died
Ashby *et al*. 1985[13]	84	M	Lung	Abdomen	Not mentioned	No	Died
Ashby *et al*. 1985[13]	38	M	IgG myeloma	Back	Not mentioned	Radiation therapy	On palliative
Ashby *et al*. 1985[13]	78	M	Rectal	Perineum and buttock	Before Dx	Yes	On palliative
Ashby *et al*. 1985[13]	65	F	Renal	Abdomen	4 months after Dx	Yes	No mention
Halliday *et al*. 1986[14]	45	M	Gastric	Abdomen and back	Not mentioned	Yes	No mention
Mac Hale *et al*. 2000[15]	36	F	Rectal	Back	Before Dx	Yes	Succumbed
Mac Hale *et al*. 2000[15]	34	M	Unknown primary	Abdomen and back	Before Dx	Yes	Succumbed
Molina *et al*. 2010[16]	45	M	Colorectal	Perineum and buttock	Before Dx	Yes	Improved
Bunick *et al*. 2014[17]	66	F	Pancreas	Back	Before Dx	Yes	No mention
Present patient	60	F	Rectal	Abdomen	After Dx	Yes	Died

Dx: Diagnosis.

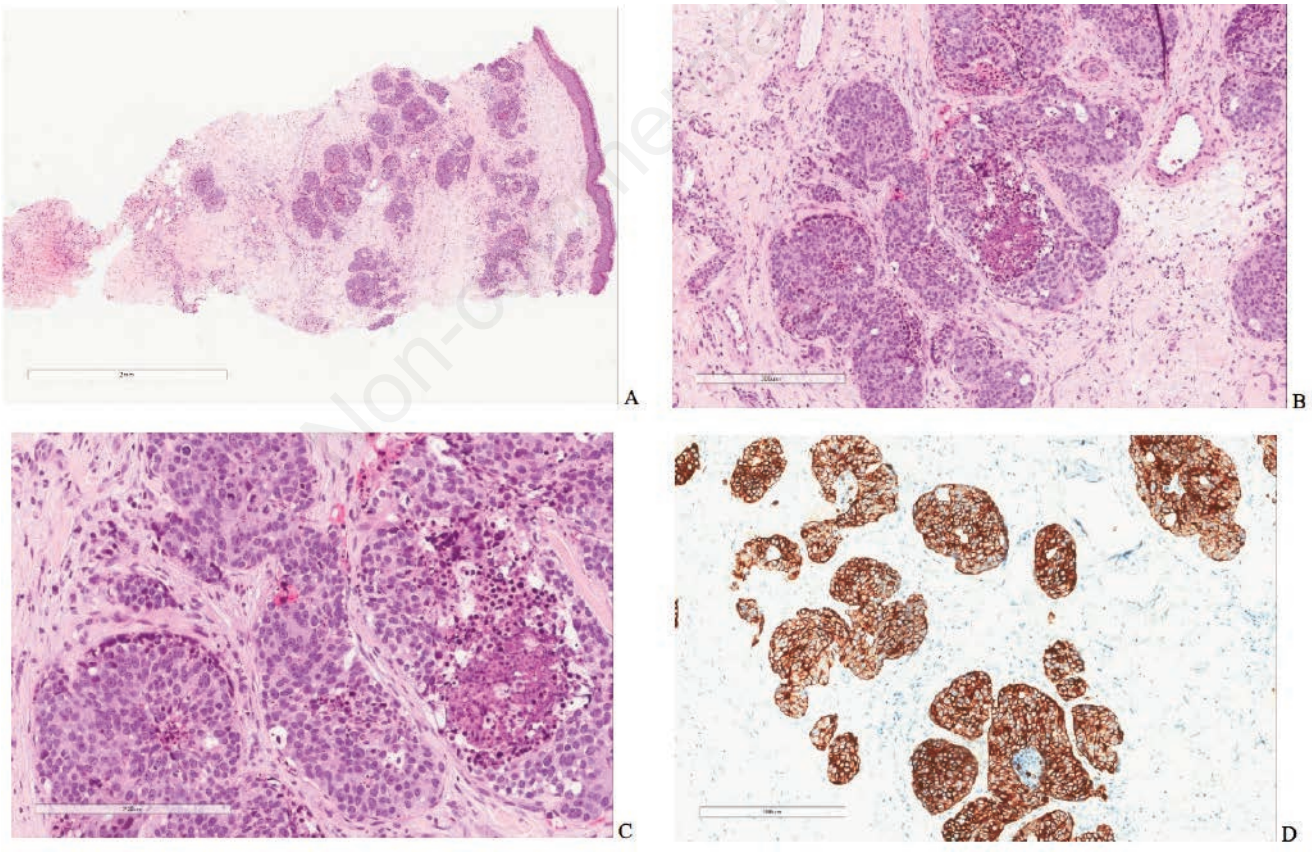

Figure 2. A) Sample composed of epidermis with underlying dermis and subcutaneous fat shows adenocarcinoma extending from upper dermis toward subcutaneous fat. B) The adenocarcinoma islands are composed of cohesive small glands with scattered areas of necrosis. C) The tumor cells are uniform irregular with large nuclei and several mitoses. The area of necrosis is also seen. D) The tumor cells express strong cytokeratin (CK) 20 immunostaining.

with occult internal malignancy.[11] Our patient used heat pads for the same purpose and the erythema *ab igne* masked the underlying cutaneous metastasis.

Conclusions

We report a rare case of colorectal adenocarcinoma cutaneous metastasis diagnosed based on biopsy that morphologically presented as erythema *ab igne*. By sharing this report, we aim to stress the wide range of presentation of cutaneous metastases, and to bring awareness to the possibility of metastasis when encountering erythema *ab igne* in cancer patients.

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