

Extensive Cutaneous Metastases from Colonic Adenocarcinoma

Dear Editor,

Cutaneous metastases of adenocarcinoma are uncommon but important. The occurrence of cutaneous metastases typically signifies widespread disease with poor prognosis. Such metastases usually occur as an isolated and rapidly growing mobile nodule unrelated topographically to the primary tumour site.¹ We report a case of metastatic colonic adenocarcinoma with unusual cutaneous presentation, similar to the regional cutaneous manifestations of advanced breast carcinoma.

A 61-year-old Chinese man first presented with right leg lower limb lymphoedema and right inguinal

lymphadenopathy. Computed tomography (CT) of his abdomen and pelvis showed enlarged inguinal and paraaortic lymph nodes. Excision biopsy of the inguinal lymph nodes revealed poorly differentiated adenocarcinoma. Subsequent colonoscopy showed adenocarcinoma of descending colon. Because of locally advanced disease, no resection was done and he underwent systemic chemotherapy with good clinical response. Two weeks following the completion of 6 cycles of chemotherapy, the patient developed a pruritic rash over his thighs that spread to involve his groin, buttocks and trunk (Figs. 1a and b). On examination, there were brownish, erythematous papules and plaques over the right anterior and posterior thigh, pubic region and both flanks. Some areas showed grouped papules that clinically resembled lymphangioma circumscriptum (Fig. 1c).

Skin biopsy showed metastatic poorly-differentiated adenocarcinoma with desmoplastic stromal reaction (Figs. 2a and b). There were numerous foci of adenocarcinoma present in a pattern suggestive of lymphatic invasion. Perineural invasion was noted at the site of a small nerve. The tumour involved the papillary dermis and extended focally into the reticular dermis. There was no histologic evidence of pagetoid or epidermotropic spread. Immunohistochemistry was not done initially. It was considered unnecessary considering the typical histologic appearance of colonic adenocarcinoma combined with colonoscopic evidence for primary colonic carcinoma. Subsequent immunohistochemistry done indicated tumour cells to be reactive for CAM5.2, CEA and CK20, and non-reactive for p63, CK7 and CD34, a profile consistent with colonic origin.

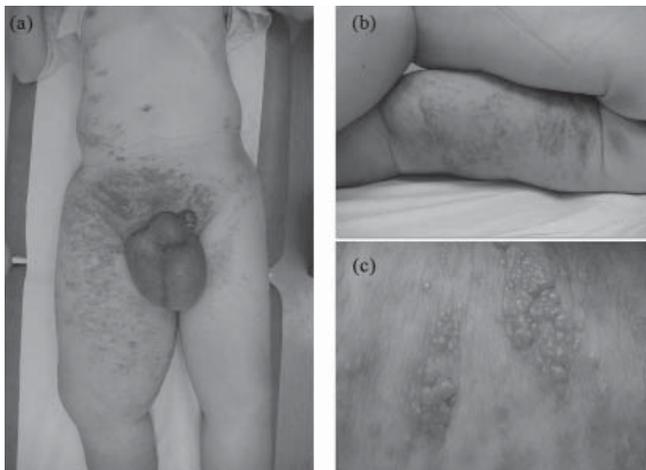


Fig. 1a. Extensive brownish, erythematous papules and plaques involving the right anterior thigh, pubic region, and bilateral flanks. Right lower limb lymphoedema and scrotal oedema are evident.

Fig. 1b. Involvement of posterior thigh.

Fig. 1c. Close-up of lesions in (a) and (b), grouped papules resembling lymphangioma.

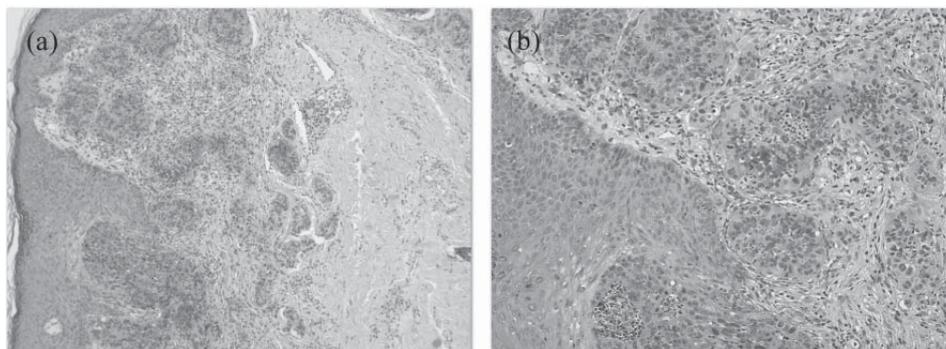


Fig. 2a. Low-power view showing numerous foci of adenocarcinoma present in a pattern suggestive of vascular invasion, with involvement of the papillary dermis and extension focally into the reticular dermis (haematoxylin and eosin; original magnification x5).

Fig. 2b. Features of poorly-differentiated adenocarcinoma on high-power view. Neutrophils are associated with the carcinoma with moderately heavy infiltrate of lymphocytes and lesser numbers of neutrophils in adjacent connective tissue (haematoxylin and eosin; original magnification x40).

The patient was referred back to the oncologist for consideration of other palliative options.

Cutaneous metastases of adenocarcinoma are uncommon. One large study indicated that 5% of patients with primary visceral tumours have cutaneous metastases with the skin involvement as the initial clinical manifestation.² Metastasis in skin can be the first sign of visceral malignancy, or evidence of failure of chemotherapy. In our patient, the lymphoedema without obvious skin metastasis preceded the diagnosis of the primary tumour. The patient presented with lower limb lymphoedema and inguinal lymphadenopathy, and then despite chemotherapy, went on to develop widespread cutaneous metastases in the form of extensive nodules that clinically resembled lymphangioma circumscriptum on the trunk, pubic region and right lower limb.-

The occurrence of cutaneous metastases typically signifies widespread malignancy with poor prognosis. Routes for cutaneous metastasis include intralymphatic, intravascular, perineural and interstitial spread. Clearly, this patient already had lymphatic involvement and obstruction by the tumour at the time of presentation. Colorectal metastases usually occur within 3 years of onset of colorectal carcinoma. The median survival after appearance of cutaneous metastases is 18 to 20 months.³ Such metastases usually occur in skin close to the primary tumour site and usually manifest as a rapidly growing, mobile nodule.¹

In this patient, the presentation differs in the extent of the cutaneous metastases as well as the clinical appearance of the lesions. The primary tumour was in the descending colon whilst the metastatic lesions extensively involved the trunk, groin, thighs and buttocks. Also, the lesions appeared as papules and plaques, some resembling the clinical appearance of lymphangioma circumscriptum. It is uncommon for cutaneous metastases from gastrointestinal carcinoma to manifest on the lower limbs. It is uncommon for such an extensive involvement and clinical appearance. In this case, there was likely extensive lymphatic invasion with blockage of lymphatics and lymph nodes near the primary site. Blockage would have promoted retrograde spread via lymphatics to block those of the lower abdomen and lower limbs. Extension in the lymphatics led to the

involvement of lymphatics of the skin. It would be logical that the inguinal region would have been the earliest to be involved followed by the thigh, buttock and lower abdomen. Local skin metastasis by this mechanism commonly occurs with carcinoma of the breast.

Carcinomas from the lung, kidney, stomach and internal female genitals are the most common malignancies to develop isolated distant cutaneous metastases, usually appearing as a solitary nodule.⁴ Differential diagnoses of these nodules include primary adnexal tumours of the skin. In many cases of cutaneous metastases, the site of the primary tumour is initially unknown. The histological appearance provides clues which can direct an efficient immunohistochemistry workup. For an apparently undifferentiated lesion, immunohistochemistry can be the most expeditious means to identify the probable origin, whereby an algorithmic approach may be used.⁴

REFERENCES

1. Brodland DG, Zitella JA. Mechanisms of metastasis. *J Am Acad Dermatol* 1992;27:1-18.
2. Lookingbill DP, Spangler N, Sexton FM. Skin involvement as the presenting sign of internal carcinoma. A retrospective study of 7316 cancer patients. *J Am Acad Dermatol* 1990;22:19-26.
3. Sarid D, Wigler N, Gutkin Z, Merimsky O, Leider-Trejo L, Ron IG. Cutaneous and subcutaneous metastases of rectal cancer. *Int J Clin Oncol* 2004;9:202-5.
4. Patterson JW, Wick MR. Nonmelanocytic tumors of the skin. *AFIP Atlas of Tumor Pathology*. 4th series, Fascicle 4. Washington DC: American Registry of Pathology and Armed Forces Institute of Pathology, 2006: 201-14.

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