

Incidental Gastric Signet-ring Cell Carcinoma Metastasis to the Skin in Basal Cell Carcinoma

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The skin is an unusual location for metastases from visceral carcinoma, and cutaneous metastases from gastric carcinoma are rare. Cutaneous metastases display various clinical features, but usually occur as non-specific firm nodules. However, no cases of occult metastases from gastric carcinoma have been reported. We describe here a patient with clinically unapparent cutaneous metastasis from gastric signet-ring cell carcinoma that was diagnosed as an incidental finding in an excision performed for unrelated basal cell carcinoma (BCC) of the upper eyelid.

CASE REPORT

An 83-year-old man presented with a haemorrhagic crusted plaque on the right upper eyelid that had started to develop 6 months previously. He had undergone a total gastrectomy for gastric carcinoma at another hospital 3 years previously. Physical examination revealed a 6-mm haemorrhagic crusted plaque on the right upper eyelid (Fig. 1). The clinical findings led to a diagnosis of BCC, and the nodule was surgically removed with a 3-mm margin. The histopathology results revealed a subtle focus of a dermal interstitial infiltrate of plump cells arranged as a solitary unit toward 1 tip of the specimen in addition to typical BCC (Fig. 2a, b). Signet ring cells, with large vacuoles occupying a major portion of the cytoplasm, were interspersed between the collagen bundles in the dermis (Fig. 2c). Immunohistochemistry results revealed that these signet ring cells were positive for carcinoembryonic antigen (CEA) and cytokeratin 7 (CK7) and negative for S-100 protein, HMB-45, leuko-

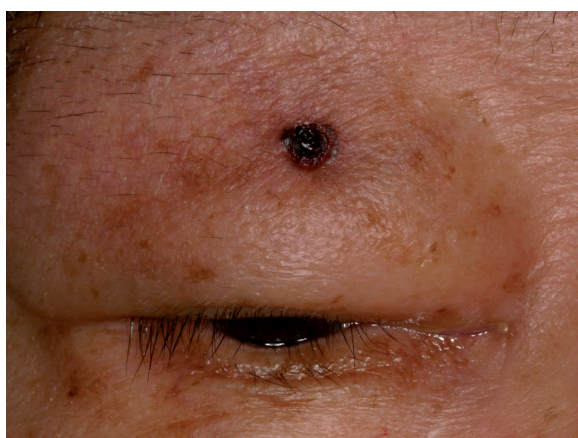


Fig. 1. A 6-mm haemorrhagic crusted plaque on the eyelid.

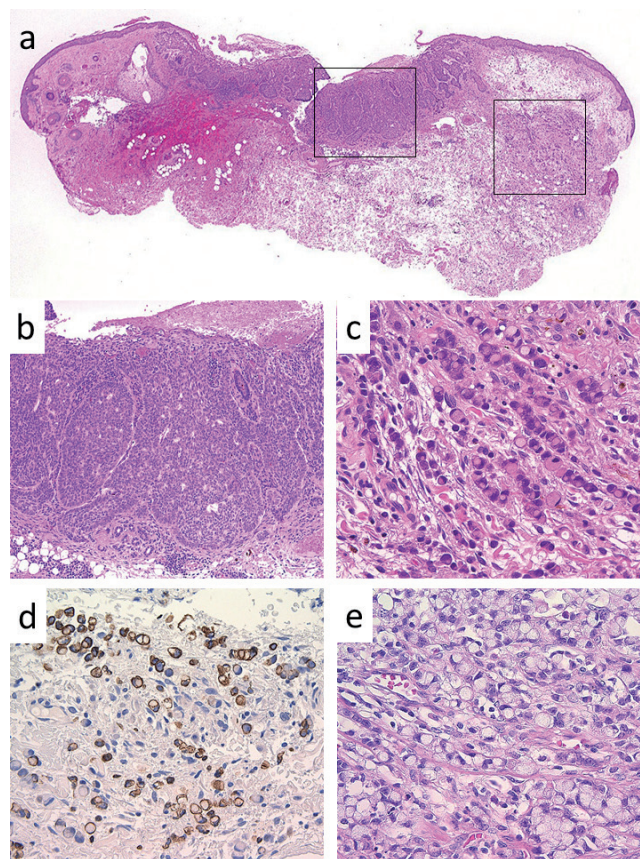


Fig. 2. (a) The surgical specimen has components of basal cell carcinoma (left box) and subtle dermal interstitial infiltrate (right box) (haematoxylin and eosin staining (H&E) $\times 2$). (b) Masses composed of basophilic cells are visible, and their peripheral layer shows a palisade arrangement of the nuclei (H&E $\times 40$). (c) Atypical tumour cells with signet-ring cell appearance are scattered between the dermal collagen fibres (H&E $\times 400$). (d) High magnification of the signet ring cells stained for cytokeratin 7 (avidin-biotin-peroxidase complex technique $\times 200$). (e) Atypical signet ring cells in the gastric mucosa (H&E, $\times 400$).

cyte common antigen (LCA), and GCDFP-15 (Fig. 2d). The histopathology of the gastric carcinoma obtained from the hospital where he had undergone a gastrectomy was signet-ring cell carcinoma (Fig. 2e) and the staining pattern of the subtle focus of the dermis corresponded to that of the gastric carcinoma. We therefore diagnosed the lesion as a cutaneous metastasis from gastric signet-ring cell carcinoma. Gastrointestinal endoscopy showed no evidence of recurrence. The patient refused further treatment including chemotherapy. Twelve months after the diagnosis, he has no clinical evidence of skin metastases, and the follow-up studies (gastrointestinal endoscopy,

computed tomography, chest X-ray, and ultrasound) also show no evidence of local recurrence or metastases.

DISCUSSION

Cutaneous metastasis from gastric carcinoma is rare; its incidence has been reported to be 0.8–1.1% (1, 2). Cutaneous metastases from gastric carcinoma usually occur as single or multiple firm, non-ulcerated nodules, and they occur mostly on the abdominal wall, typically in the periumbilical area, where they are known as Sister Mary Joseph nodules (3, 4). However, various cutaneous manifestations, such as figurate erythema (5), alopecia neoplastica (6), and erythema annulare centrifugum (7), have also been reported. In our case, the cutaneous metastasis was clinically unnoticeable and detected as an incidental finding in an excisional specimen for an unrelated BCC. To our knowledge, this is the first report of occult cutaneous metastasis from gastric carcinoma.

Apart from gastric carcinoma, occult cutaneous metastases from breast carcinomas have also been reported (8). That report was of 2 cases only, and the metastases were also incidentally discovered in excisional specimens for unrelated cutaneous malignancies. Both of the cases had a surgical procedure at the metastatic site, that is, shave biopsy and marginal excision prior to wide excision, whereas our patient had no surgical procedure prior to surgery for BCC. The authors assumed that the initial surgical procedure may have resulted in the destruction of the integrity of the local vasculature and provided circulating neoplastic cells with access to the tissue, which was followed by proliferation of the tumour cells interstitially (8). Similarly, metastasis to scars after a surgical or diagnostic procedure is a well-recognized phenomenon. Increased blood flow and the presence of vascular alterations in fresh scar tissue may favour the adhesion and subsequent growth of tumour cells (9).

The presence of signet ring cells in the skin is most often indicative of metastatic carcinomas from the gastrointestinal tract. However, some skin neoplasms, such as primary cutaneous signet ring cell carcinoma (CSRCC), liposarcoma, lymphoma, melanoma, basal cell carcinoma, and squamous cell carcinoma, may contain signet ring cells (10). In our case, positive immunohistochemical staining for CK7 and CEA suggested an epithelial origin for the primary site. The negative staining for S-100, HMB-45, and LCA also helped to exclude the possibility of melanoma and lymphoma. CSRCC usually occurs as a nodule on the

eyelid and the tumour grows diffusely in the dermis and/or subcutaneous tissue (10). Although our patient also had signet ring cells in the dermis of the eyelid, his past history of gastric carcinoma and the correspondence in the histopathology finding of the tumour cells and the immunohistochemical staining between the primary site and the cutaneous lesion confirmed the diagnosis of occult cutaneous metastasis from the gastric carcinoma.

Fortunately, our patient has no evidence of further metastatic disease 12 months after the diagnosis despite his refusal of further treatments. However, close follow-up is required, as cutaneous metastasis is often the first sign of extranodal metastatic disease (2).

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