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Cutaneous Metastasis at a Surgical Drain Site after Gastric Cancer Resection

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Key Words

Gastric carcinoma · Abdominal wall metastasis · Wound implantation · Skin metastasis

Abstract

Cutaneous metastasis from intra-abdominal malignant solid tumours such as gastric adenocarcinoma is very rare. Here, we report the case of a 76-year-old male patient with a T4N2M0, poorly differentiated, signet-ring cell gastric carcinoma, who underwent potentially curative resection of the tumour and developed cutaneous metastasis at the site of the surgical drain 4 months after the operation while he was on chemotherapy. The lesion involved the skin and the subcutaneous fat only. A CT scan revealed local recurrence at the resection bed but no distant metastases. The patient died 1 month later. It is concluded that the development of cutaneous metastasis after gastric carcinoma resection indicates tumour recurrence or disseminated disease and is associated with poor prognosis.

Introduction

Metastasis to the skin from intra-abdominal malignant solid tumours such as gastric adenocarcinoma is rare, occurring as the first sign of the underlying tumour, during the course of the disease or as a complication of percutaneously performed diagnostic or therapeutic procedures [1, 2]. Here, we describe a patient who developed a cutaneous metastasis at the site of a previous surgical drain after potentially curative resection of a gastric adenocarcinoma.

Case Report

A 76-year-old man was admitted because of haematemesis, weight loss and loss of appetite. Clinical examination was unremarkable, and no palpable abdominal mass or enlarged supraclavicular lymph

nodes were detected. Endoscopy showed a large ulcerated tumour located in the gastric antrum. Endoscopic biopsies revealed a primary gastric adenocarcinoma. A preoperative CT excluded ascites, hepatic or other distant metastases. At surgery, the tumour was found to extend to the perigastric fat and to adhere to the pancreas. A subtotal gastrectomy with D2 lymphadenectomy was performed, and the gastrointestinal continuity was established by a Billroth II antecolic loop gastrojejunostomy. A corrugated drainage tube was placed adjacent to the duodenal stump and left in place for 3 days. Histopathological analysis revealed a poorly differentiated, diffuse type (according to the Lauren classification) signet-ring cell adenocarcinoma, infiltrating the perigastric fat and the pancreatic capsule, with 15 of 21 lymph nodes involved. There was no perineural infiltration or vascular invasion. The tumour was classified as stage IV (T4N2M0) according to the 6th edition of the TNM classification. Subsequently, the patient was given chemotherapy with irinotecan (200 mg/m²) and oxaliplatin (80 mg/m²). Four months after the operation, he was found to have a 5-cm, hard, ulcerated and painful nodule at the scar of the previous exit site of the drainage tube ([fig. 1](#)). The lesion involved the skin and the subcutaneous fat only and was completely excised. Histology of the specimen revealed a deposit of the adenocarcinoma having similar features with the primary tumour and infiltrating the skin and subcutaneous tissue ([fig. 2](#)). A CT scan revealed local recurrence at the resection bed but no distant metastases. The patient died 1 month later.

Discussion

Metastasis to the skin from intra-abdominal malignant solid tumours, such as hepatobiliary, pancreatic, colorectal, renal or ovarian carcinomas, is a possible complication of percutaneously performed diagnostic or therapeutic procedures [1]. Nevertheless, such lesions arising from gastric adenocarcinoma are extremely rare, occurring after palliative percutaneously performed gastrostomy for unresected tumours [2] or after potentially curative surgery at the sites of surgical drains [3, 4], as in our patient.

Although lymphatic or haematogenous dissemination has been suggested as a possible mechanism for metastatic spread to the skin, exfoliated tumour cell seeding along a catheter or a drainage tube or tumour cell growth through the formed tract is more likely. In this context, laparoscopic surgery for cancer has been associated with an increased risk of abdominal wall metastasis because of direct tumour cell seeding and implantation at the sites of trocar placement, especially of trocars used for specimen removal [5].

These lesions have no specific appearance; they may present as cutaneous or subcutaneous nodules, persistent inflammatory cellulitis-like lesions, fixed, indurated lesions or carcinoma erysipelatoides [6]. They usually indicate tumour recurrence or disseminated disease and a poor prognosis. However, any skin lesions at sites of surgical scars in patients with previous gastric cancer resection should be biopsied for the detection of tumour recurrence and initiation of appropriate treatment, which, in selected patients without widespread metastases, may prolong survival.



Fig. 1. The ulcerated skin lesion in the right hypochondrium at the previous surgical drain scar.

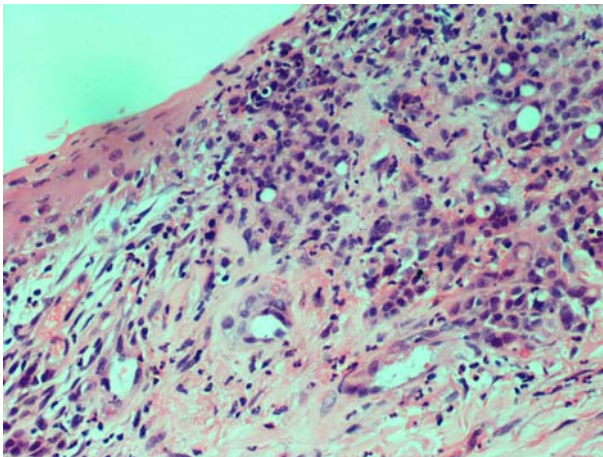


Fig. 2. Infiltration of subcutaneous tissue by signet-ring tumour cells present among abundant inflammatory cell infiltration (haematoxylin and eosin; original magnification $\times 100$).

References

- 1 Soyer P, Pelage JP, Dufresne AC, Boudiaf M, Kardache M, Dahan H, Rymer R: CT of abdominal wall implantation metastases after abdominal percutaneous procedures. *J Comput Assist Tomogr* 1998;22:889–893.
- 2 Heinbokel N, König V, Nowak A, Carstens V: A rare complication of percutaneous endoscopic gastrostomy: metastasis of adenocarcinoma of the stomach in the area of the gastric stoma. *Z Gastroenterol* 1993;31:612–613.
- 3 García-González E, Alvarez-Paque L, Loyola-Zárate M, Lisker-Melman M: Seeding of gastric adenocarcinoma cells to the skin after invasive procedures. *J Clin Gastroenterol* 1998;26:82–84.
- 4 Morelli U, Cirocchi R, Mecarelli V, Farinella E, La Mura F, Ronca P, Giustozzi G, Sciannoneo F: Gastric adenocarcinoma cutaneous metastasis arising at a previous surgical drain site: a case report. *J Med Case Reports* 2009;3:65.
- 5 Cava A, Román J, González Quintela A, Martín F, Aramburo P: Subcutaneous metastasis following laparoscopy in gastric adenocarcinoma. *Eur J Surg Oncol* 1990;16:63–67.
- 6 Choi HM, Myung KB, Kook HI: Cutaneous metastatic adenocarcinoma of stomach – nodular and inflammatory carcinoma. *J Korean Med Sci* 1986;1:49–52.