

# CUTANEOUS METASTASIS FROM GASTRIC ADENOCARCINOMA: A CASE REPORT

Jaw-Yuan Wang, Chee-Yin Chai,<sup>1</sup> Yu-Chung Su,<sup>2</sup> Kwan-Ming Soo, Yu-Sheng Huang,  
Tsung-Jen Huang, and Jan-Sing Hsieh

Departments of Surgery, <sup>1</sup>Pathology, and <sup>2</sup>Internal Medicine, Kaohsiung Medical University,  
Kaohsiung Medical University Hospital, Kaohsiung, Taiwan.

Cutaneous metastasis from gastric adenocarcinoma is an infrequent disease entity. When present, it typically signifies disseminated disease with a poor prognosis. We report a case of a 57-year-old male patient with gastric cancer who developed generalized erythematous nodules on the chest, abdomen, back, neck, and four extremities 2 months postoperatively. Results of a skin biopsy disclosed groups of metastatic adenocarcinoma cells in the dermis and subcutaneous tissue, forming clusters and strands in a desmoplastic stroma. Histopathologic examination demonstrated that the cutaneous metastasis was of stomach origin.

**Key Words:** gastric adenocarcinoma, cutaneous metastasis  
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Metastases to the skin from internal carcinoma are relatively rare, with a reported incidence of 0.7–9% [1,2]. Cutaneous metastases may be the first presentation of such malignancies, accompany other symptoms, or occur during follow-up [3–5]. Breast cancer is the most common origin of cutaneous metastases in women and lung cancer is the most common origin in men. Skin metastases from gastric adenocarcinoma are extremely rare [3,6]. We describe here a patient who developed generalized erythematous non-tender masses arising from poorly differentiated adenocarcinoma with signet ring cell change in the stomach.

## CASE PRESENTATION

A 57-year-old male patient was sent to the Emergency Department of Kaohsiung Medical University Hospital because of the sudden onset of epigastralgia and cold

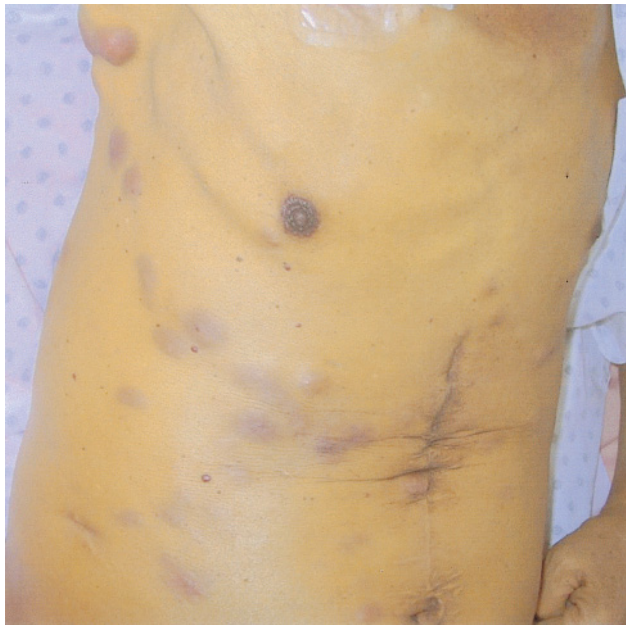
sweating. He was previously healthy except for a history of duodenal ulcer. After a series of examinations, emergency laparotomy was arranged under the tentative diagnosis of perforated peptic ulcer. However, a hard indurated tumor, located at the antrum, with prepyloric area perforation was found during surgery. Due to the high suspicion of gastric cancer with perforation, radical subtotal gastrectomy was performed. The pathologic report revealed poorly differentiated gastric adenocarcinoma with signet ring cell pattern and perigastric lymph node metastases, staged T3N2M0. The postoperative course was unremarkable and the patient was discharged uneventfully. Chemotherapy with 5-fluorouracil, doxorubicin, and mitomycin (FAM) was instituted. Unfortunately, the patient was hospitalized again with the chief complaint of erythematous rash 2 months after surgery. On physical examination, he was cachectic and jaundiced and had multiple soft, well-demarcated, slightly indurated, non-tender, erythematous skin nodules measuring 1–4 cm in diameter over the neck, chest, abdomen, back, inguinal area, and four extremities (Figure 1). Laboratory tests revealed elevations in aspartate aminotransferase (348 U/L), alanine aminotransferase (266 U/L), and total/direct bilirubin (88.9/56.4  $\mu\text{mol/L}$ ). Tumor marker studies showed a marked elevation of carcinoembryonic antigen (45.1  $\mu\text{g/L}$ ). Chest X-ray showed metastatic lesions

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Address correspondence and reprint requests to: Dr. Jan-Sing Hsieh, Department of Surgery, Kaohsiung Medical University Hospital, 100 Tzyou 1<sup>st</sup> Road, Kaohsiung 807, Taiwan.

E-mail: h660016@seed.net.tw



**Figure 1.** Multiple erythematous, soft, well-demarcated plaques on the trunk.

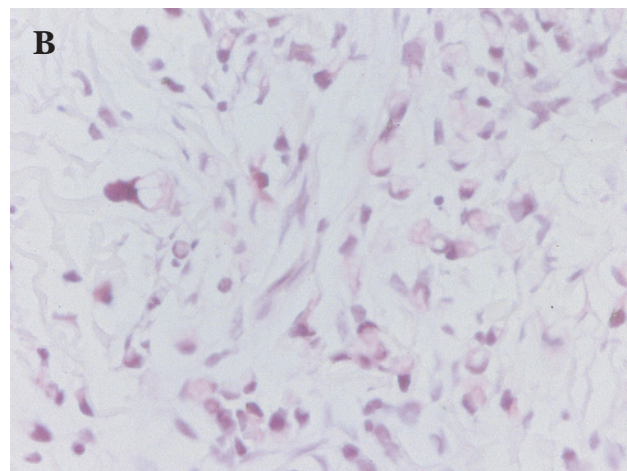
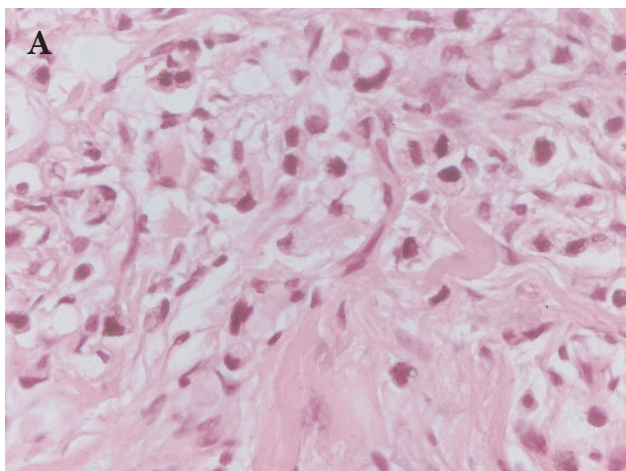
at the right third and fourth ribs. Abdominal computed tomography showed multiple lymphadenopathy with hepatic hilar and bilateral ureteral encasement, leading to intrahepatic duct dilation and bilateral hydronephrosis. Skin biopsy revealed infiltrating neoplastic cells in the dermis and subcutaneous tissue. The neoplastic cells formed clusters and strands in a desmoplastic stroma (Figure 2A). Some of the neoplastic cells showed a signet ring cell appearance, which was characterized by eccentric and pleomorphic nuclei and accumulation of intracytoplasmic

mucin on periodic acid Schiff reaction-diastrase stain (Figure 2B). Continuation of chemotherapy did not improve the patient's condition and he died 5 weeks after this admission.

## DISCUSSION

Cutaneous metastasis is a relatively uncommon manifestation of visceral malignancies. It most often occurs late in the course of disease but may also be the first presentation of underlying cancers. The overall incidence of cutaneous metastasis from visceral neoplasm is 5.3%, ranging from 0.7% to 9% [1,2,7,8]. The tumor with the highest incidence of cutaneous metastasis is breast cancer. Lung cancer, colorectal cancer, renal cancer, ovarian cancer, and bladder cancer all have similar rates for cutaneous metastasis of between 3.4% and 4% [8]. The incidence of cutaneous metastases from carcinomas of the upper digestive tract has been reported as less than 1% [5]. Gastric cancer causes only 6% of all skin metastases [3]. Although metastases from gastric adenocarcinoma can, at times, have a wide distribution, generalized cutaneous metastases, as seen in our case, are infrequent [9,10].

Histologic appearance is the most important feature in the diagnosis of cutaneous metastases, as it is similar to that of the primary tumor. In our case, the features were identical to the gastric carcinoma, and signet ring cells with cytoplasmic mucin and laterally displaced nuclei were recognized on the histologic examination of the skin biopsy. Because of advances in cancer therapy, patients with cutaneous metastases may live longer than before. Nevertheless, cutaneous metastases are still a poor



**Figure 2.** (A) Skin tissue is infiltrated by neoplastic cells with signet ring cell appearance in a desmoplastic stroma (hematoxylin & eosin,  $\times 400$ ). (B) Accumulation of intracytoplasmic mucin in the neoplastic cells (periodic acid Schiff reaction-diastrase,  $\times 400$ ).

prognostic sign, particularly in patients with cancer of the lung, ovary, upper respiratory tract, or upper digestive tract [2]. Most cases of cutaneous metastases are indicative of widespread dissemination of the disease and early fatal termination with poor prognosis [10–12]. Bordin and Weitzner reported that the duration of survival from the time of diagnosis of the metastatic carcinoma in the skin averaged 11.4 weeks with a range of 2 to 34 weeks [13]. The treatment for most patients is palliative, and, although chemotherapy and radiotherapy are often used in these patients, they are ineffective in many cases [14].

In conclusion, we have described a patient with gastric carcinoma who developed generalized cutaneous metastases. Despite its low frequency, persistent indurated erythema and all skin nodules of undetermined causes need to be biopsied to diagnose cutaneous metastasis of visceral malignancies. If cutaneous metastases can be recognized early in these patients, prompt therapy with anti-tumor agents can be initiated before the occurrence of extensive visceral metastases.

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# 胃腺癌合併皮膚轉移 — 病例報告

王照元<sup>1</sup> 蔡志仁<sup>2</sup> 蘇育正<sup>3</sup> 蘇君明<sup>1</sup> 黃裕勝<sup>1</sup> 黃宗人<sup>1</sup> 謝建勳<sup>1</sup>  
高雄醫學大學附設中和紀念醫院 <sup>1</sup>外科 <sup>2</sup>病理科 <sup>3</sup>內科

胃腺癌合併皮膚轉移是一個相當罕見的疾病，當此現象存在時，代表此疾病已經蔓延而且病人之預後相當差。我們報告一位 57 歲男性胃腺癌病患在接受胃切除手術兩個月後發生全身性紅斑性結節，散在於胸部、腹部、背部、頸部與四肢。皮膚標本病理切片結果顯示表皮與皮下組織之轉移性腺癌細胞聚集，病理組織檢查證實為源自胃癌細胞轉移。

**關鍵詞：**胃腺癌，皮膚轉移  
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通訊作者：謝建勳醫師  
高雄醫學大學附設中和紀念醫院外科  
高雄市 807 三民區自由一路 100 號