

CASE REPORT

An Unusual Case of Carcinoma Erysipelatoides Originating from Gastric Adenocarcinoma

Won Jun Choi, M.D., Mihn Sook Jue, M.D., Joo Yeon Ko, M.D., Ph.D., Young Suck Ro, M.D.

Department of Dermatology, Hanyang University Hospital, Hanyang University College of Medicine, Seoul, Korea

Carcinoma erysipelatoides, also known as inflammatory metastatic carcinoma, is a rare form of cutaneous metastasis. It is most commonly caused by breast carcinoma, but rarely associated with gastric adenocarcinoma. Herein, we report an unusual case of carcinoma erysipelatoides in a 55 year-old female who had been diagnosed with signet ring cell carcinoma of the stomach metastasizing to ovaries. (**Ann Dermatol 23(3) 375 ~ 378, 2011**)

-Keywords-

Carcinoma erysipelatoides, Stomach neoplasm, Signet ring cell carcinoma

INTRODUCTION

Carcinoma erysipelatoides is a rare form of cutaneous metastasis secondary to an internal malignancy. Clinically, the lesion has a well-demarcated, slightly indurated erythematous appearance closely resembling an acute infectious process, such as erysipelas and cellulitis. Carcinoma erysipelatoides is most commonly secondary to breast cancer and has rarely been reported in cancers originating from the stomach¹. To our knowledge, only 6 cases of carcinoma erysipelatoides secondary to gastric adenocarcinoma have been reported so far¹⁻⁶.

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Corresponding author: Young Suck Ro, M.D., Department of Dermatology, Hanyang University Hospital, 17 Haengdang-dong, Seongdong-gu, Seoul 133-792, Korea. Tel: 82-2-2290-8441, Fax: 82-2-2291-9619, E-mail: romio@hanyang.ac.kr

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Herein, we report an unusual case of carcinoma erysipelatoides originating from signet ring cell carcinoma of the stomach.

CASE REPORT

A 55 year-old female presented with a 1-month history of indurated erythematous plaque on the lower abdomen (Fig. 1). Seventeen months ago, she was diagnosed with signet ring cell carcinoma of the stomach metastasizing to ovaries. She underwent subtotal gastrectomy and total abdominal hysterectomy with bilateral salphingo-oophorectomy followed by systemic chemotherapy (Fig. 2). Skin biopsy taken from the indurated plaque in the left lower abdomen revealed scattered infiltration of signet ring cells associated with lymphatic invasion in the dermis (Fig. 3A, B). These cells stained positive for PAS and pan-cytokeratin (Fig. 3C, D). Based on these findings, a diagnosis of cutaneous metastasis secondary to gastric adenocarcinoma was made.

The patient subsequently underwent 8 courses of 5-FU, leucovorin, oxaliplatin (FOLFOX) chemotherapy in a 5-month period. However, no clinical response of the skin lesion was observed even though she tolerated the chemotherapy well.

DISCUSSION

Advanced gastric carcinoma can metastasize to many parts of the body, particularly the regional lymph nodes, peritoneum, liver, pancreas, colon, lung, ovary and bones, but metastasis to the skin is not common². In several studies, the incidence of cutaneous metastasis secondary to gastric carcinoma has been reported to be about 0.2 ~ 0.4%^{7,8}. The most common clinical presentation is solitary or multiple, firm and non-ulcerated nodules, but they also rarely manifest as carcinoma *en cuirasse* (leather-like skin

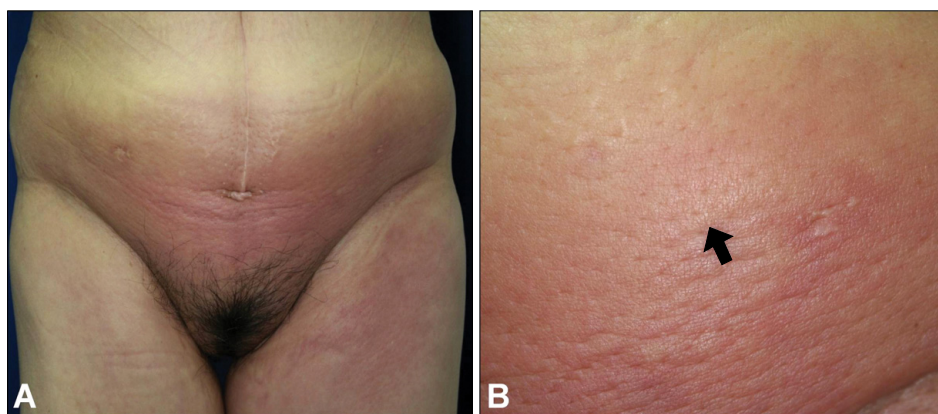


Fig. 1. Clinical presentation of carcinoma erysipelatoides. (A) Indurated erythematous patch on lower abdomen. (B) Closer view.

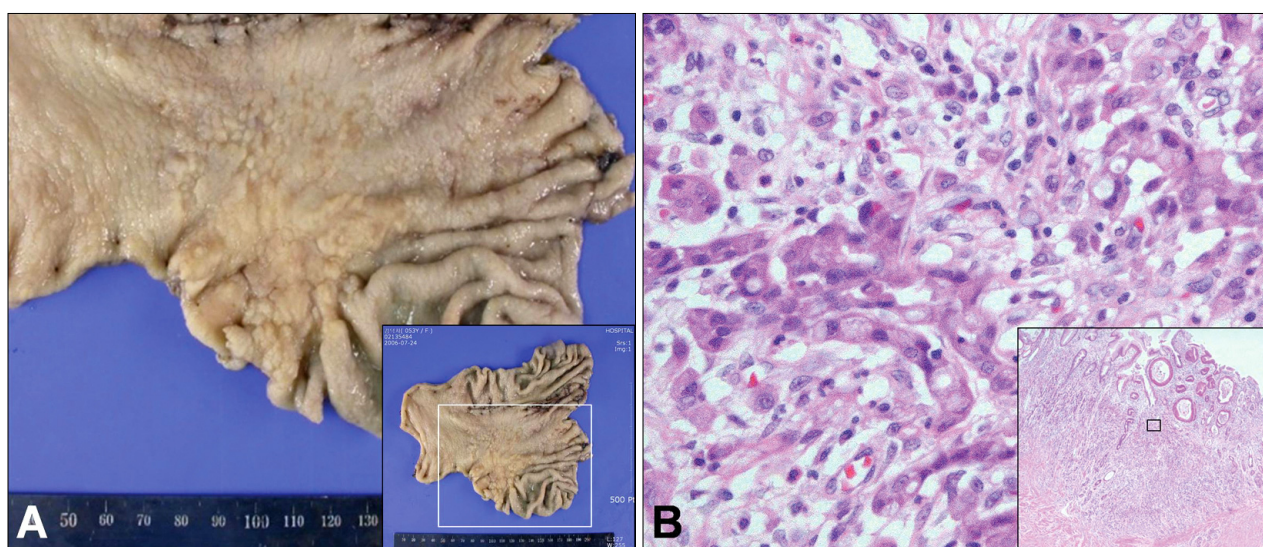


Fig. 2. (A) The open resected specimen of stomach. (B) Histopathology of the resected gastric specimen showing atypical cells admixed with signet ring cells and undifferentiated cells (H&E, $\times 400$).

change), carcinoma erysipelatoides, neoplastic alopecia, and zosteriform metastasis¹⁻⁶.

Carcinoma erysipelatoides, also known as inflammatory metastatic carcinoma, is characterized by indurated erythematous patches or plaques with an active spreading border resembling erysipelas. Inflammatory metastatic lesions are considered to represent deposition of malignant cells in dermal lymphatic vessels^{1,5}. In our patient, signet ring cells were observed in the lymphatics.

Carcinoma erysipelatoides is most commonly caused by breast carcinoma, but rarely associated with gastric adenocarcinoma¹⁻³. Thus far, only been 6 cases of carcinoma erysipelatoides originating from gastric carcinoma have been reported in the literature¹⁻⁶. Including our case, carcinoma erysipelatoides primarily appears in men (5:2), with an average age of 57.3 years (range 36~62 years). In addition, it is diagnosed at the same time as gastric adeno-

carcinoma, except our case. Moreover, our patient is the first reported case involving low abdominal wall lesion. Table 1 summarizes the 6 reported cases as well as the present case.

Signet ring cells are mainly seen in mucin producing carcinomas, such as stomach cancer and are less frequently associated with breast and lung carcinoma^{9,10}. Therefore, the presence of signet ring cells in a skin biopsy specimen is most often indicative of metastatic signet ring cell carcinoma from the gastrointestinal tract, and less frequently from the breast or lung⁹. However, cutaneous neoplasms that may contain signet ring cells including non-Hodgkin's lymphoma, liposarcoma, malignant melanoma, primary cutaneous signet ring cell carcinoma of eccrine or apocrine origin, primary cutaneous signet ring basal cell carcinomas and squamous cell carcinoma must be excluded¹. Appropriate immunohistochemical staining may

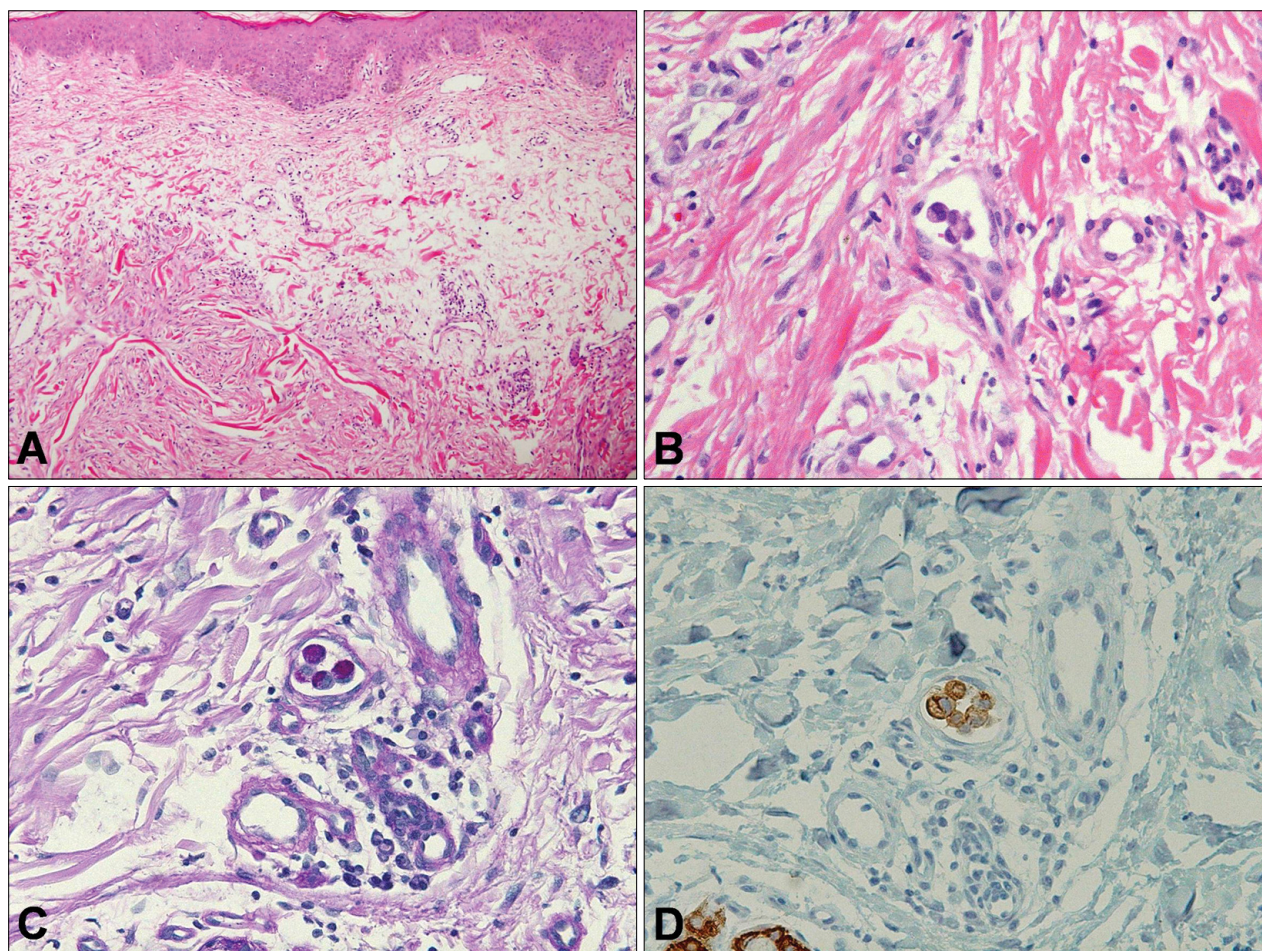


Fig. 3. (A) Biopsy specimen showed upper dermal edematous change and scattered infiltration of tumor cells in the dermis (H&E, $\times 100$). (B) Lymphatic invasion of signet ring cells were observed (H&E, $\times 400$). Signet ring cells presented positivity for (C) PAS and (D) cyokeratin within dilated lymphatics ($\times 400$).

Table 1. Reported cases of carcinoma erysipelatoides from gastric carcinoma

Author	Sex/Age	Location	First metastatic site (duration*)	Second metastatic site (duration [†])	Histologic type	Survival time
Present case	F/55	Low abdominal wall	Ovary (co-found)	Skin (17 mo)	Signet ring cell	Followed for 5 months
Acikalin et al. ¹	M/44	Left cheek	Skin (co-found)	—	Signet ring cell	20 days
Kavgaci et al. ²	M/48	Neck	Skin (18 mo)	—	Signet ring cell	Followed for 2 months
Foo et al. ³	M/67	Right neck	Skin (co-found)	—	Signet ring cell	28 days
Navarro et al. ⁴	M/72	Left forearm	Skin (24 mo)	—	Signet ring cell	6 months
Han et al. ⁵	F/36	Left chest and upper arm	Vertebra, skin (co-found)	—	Signet ring cell	Followed for 7 months
Hamamoto et al. ⁶	M/79	Thoracoabdominal wall (Over the operation scar)	Lung, kidney, bladder, skin (24 mo)	—	?	2 months

*Duration from the diagnosis of the gastric carcinoma to the diagnosis of the first metastasis, [†]Duration from the diagnosis of the first metastasis to the diagnosis of the second metastasis.

assist in formulating differential diagnoses¹. Of particular diagnostic utility include the positivity of tumoral cells for cyokeratin and carcinoembryonic antigens, and negativity

for HMB-45 and leukocyte common antigen in metastatic signet ring cell carcinoma, features different from cutaneous neoplasms consisted of signet ring cells¹.

Among several histologic subtypes of gastric carcinoma, signet ring cell carcinoma has a greater tendency towards distant metastasis¹. Several cases of cutaneous metastasis from signet ring cell carcinoma of the stomach have been reported, but cases manifesting as carcinoma erysipelatoides have rarely been reported, and there are no reported cases in Korean literature.

Including our patient, there are 7 reported cases of carcinoma erysipelatoides metastasized from gastric carcinoma, and all histologic subtypes of primary gastric carcinoma were signet ring, except in one patient⁶ whose histologic subtype had not been described (Table 1)¹⁻⁶. Signet ring cell carcinoma of the stomach, histologically an undifferentiated subtype of gastric carcinoma, is generally reported to cause lymphatic metastasis more than other subtypes¹¹. The tendency to metastasize through lymphatic vessels is thought to be the reason behind most carcinoma erysipelatoides originating from gastric carcinoma, and that the histologic subtype of primary gastric carcinoma is predominantly signet ring cell.

Diagnosis of cutaneous metastasis is important because they indicate poor prognosis. The absence of fever and leukocytosis should raise the possibility of a non-infectious process. Thus, if a suspected inflammatory skin condition resembling erysipelas, cellulitis, zoster, or livedo reticularis¹² is refractory to therapy, skin biopsy should be performed to exclude carcinoma erysipelatoides. Suspicion should be heightened in patients with known internal malignancy.

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