

## Cutaneous Metastatic Adenocarcinoma of Stomach — Nodular and Inflammatory Carcinoma —

Hai Min Choi, M.D., Ki Bum Myung, M.D., and Hong Il Kook, M.D.

*Department of Dermatology, Ewha Womens' University, School of Medicine,  
70 Chongro 6-ka, Chongro-ku, Seoul Korea*

*A 65-year-old male patient presented multiple cutaneous nodules on trunk and an erythematous inflammatory lesion resembling erysipelas on left side of neck. Result of skin biopsies disclosed groups of metastatic adenocarcinoma cells in the dermis, subcutaneous tissue, and lumina of the lymphatic vessels. Histopathologic examination of the stomach, along with the gastroscope, established that the cutaneous metastasis was of stomach origin.*

Key Words: *Cutaneous metastatic adenocarcinoma, Nodular and Inflammatory Carcinoma*

### INTRODUCTION

**SKIN** metastasis from internal carcinoma in relatively rare. The frequency of metastasis to the skin varies from 1 to 4.5% (Gates, 1937; Mehregan, 1961). Cutaneous metastasis ordinarily appears late in the course of fatal neoplastic disease, but can be the earliest sign of tumor arising elsewhere (Reingold, 1966; Taboada & Fred, 1966; Feuerman et al., 1973; Braverman, 1981).

In the review by Beerman (1969), the sites of origin of cutaneous metastasis are listed as breast-50%; stomach-15 to 31%; lung-12%; uterus-9% kidney-9%. Connor et al. (1963), in a series of 588 patients with surgically excised lesions metastatic to the skin, found the following to be the most frequent primary sites: breast-38%; gastrointestinal tract 17.4%; lung-16.3%; kidney-6.8%. Abrams et al. (1950) reported the incidence of metastatic involvement in 1,000 consecutively autopsied cases of carcinoma as 11.9% in stomach cancer.

We report herein a rare case of adenocarcinoma of the stomach in which the initial-appearing sign was a combination of nodular and inflammatory

cutaneous metastatic lesions.

### REPORT OF A CASE

A 65-year-old man was first seen in March 1982 at the Dermatologic Clinic of Ewha Womens University Hospital with a six-month history of edematous swelling of left side of the neck and multiple tumor masses on trunk, axilla, and groin.

He had been well until 6 months before, when he noticed three pea sized nodules on abdomen and palm-sized erythematous tender swelling on left side of the neck. The erythematous swelling changed to hard purplish inflammatory lesion and limited neck motion. Many newly formed nodules developed at other sites of the body.

Physical examination showed a relatively well-nourished patient with normal vital signs. He has a left cataract. The abdomen was soft with no organomegaly. Skin examination showed numerous, skin colored, firm, nonmovable nodules was soft with no organomegaly. measuring 0.5-2cm in diameter at trunk, axilla and groin areas. The masses on the abdomen coalesced to form hard purplish plaques (Fig. 1). On the neck the skin was thickened with well-defined, palm-sized, warm, slightly tender, inflamed plaques (Fig. 2).

Laboratory studies disclosed the following values:

Address for Correspondence: *Hai Min Choi, M.D.,  
Department of Dermatology, Ewha Women's University,  
School of Medicine, 70 Chongro 6-Ka, Chongro-Ku Seoul,  
110, Korea.*

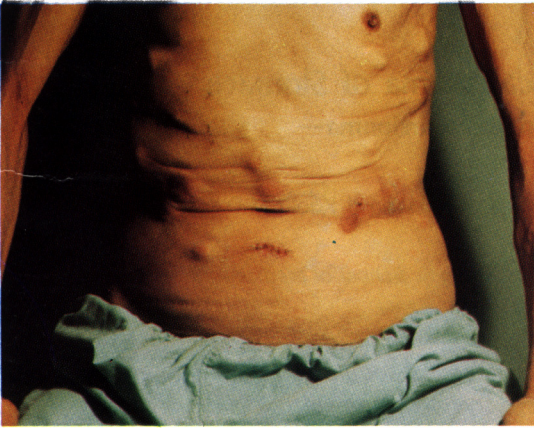


Fig. 1. Multiple, normal skin colored nodules and some purplish hard plaques on trunk.



Fig. 2. Large erythematous plaque on left side of the neck.

hemoglobin 13.6 gm%, hematocrit 40.5%, WBC count  $7,100/\text{mm}^3$  with differential cell count of 75% polymorphonuclear leukocytes, 2% band cells, 22% lymphocytes and 1% eosinophils; and platelet  $406,000/\text{mm}^3$ . Serum total protein level was 5.5gm% (normal: 6-8.5gm%). There were no abnormal findings in stool and urine examinations. Serum albumin, cholesterol, glucose, BUN, creatinine, glutamic pyruvic transaminase, glutamic oxalic transaminase, alkaline phosphatase, and electrolytes were within normal limites. The chest roentgenogram was interpreted as showing a mass density in the left supraclavicular fossa, but no evidence of pulmonary metastasis. Sputum cytology showed benign atypia (class II).

On microscopic examination, an abdominal skin nodule showed atypical anaplastic cell infiltration at the lower dermis and subcutaneous fat, which were arranged into gland-like structures (Fig. 3). Signet ring cells with cytoplasmic mucin and laterally displaced nuclei were recognized (Fig. 4). PAS staining showed positive reaction within the cells of gland-like structure. A skin biopsy specimen of the left side of the neck showed dilated dermal lymphatic vessels filled with nests of tumor emboli (Fig. 5).

With the information obtained from the biopsy specimens, a diagnosis of metastatic adenocarcinoma of unknown origin was made. Upper gastrointestinal series and gastroscope revealed a large nodular mass with superficial ulceration on body and tumor mass on the antral area. Fiberoptic biopsy was performed at antral portion of stomach, and hematoxylineosin stained sections of the specimen showed and infiltrating undifferentiated adenocarcinoma (Fig. 6).

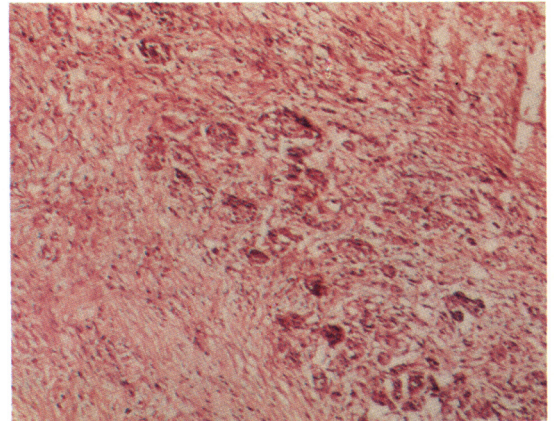


Fig. 3. Biopsy specimen from an abdominal nodule shows diffuse anaplastic tumor cell infiltration and gland-like structures in lower dermis (H & E, X100).

The patient was transferred to the department of internal medicine for systemic chemotherapy. Chemotherapy with 5-FU, nitrosourea and cis-platinum was instituted. After a course of chemotherapy, the patient experienced attacks of acute pain in his left arm and found severe edematous swelling. So left supraclavicular venogram was performed and revealed obstruction of vein by extrinsic mass and internal emboli, which was suggested tumor emboli. He was treated by irradiation, receiving 2,000 rad to left side of the neck. Without relief and the patient's con-



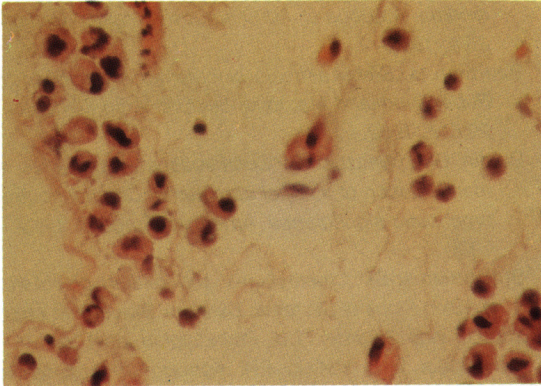


Fig. 4. Signet ring cells in the subcutaneous fat tissue (H & E, X 400).

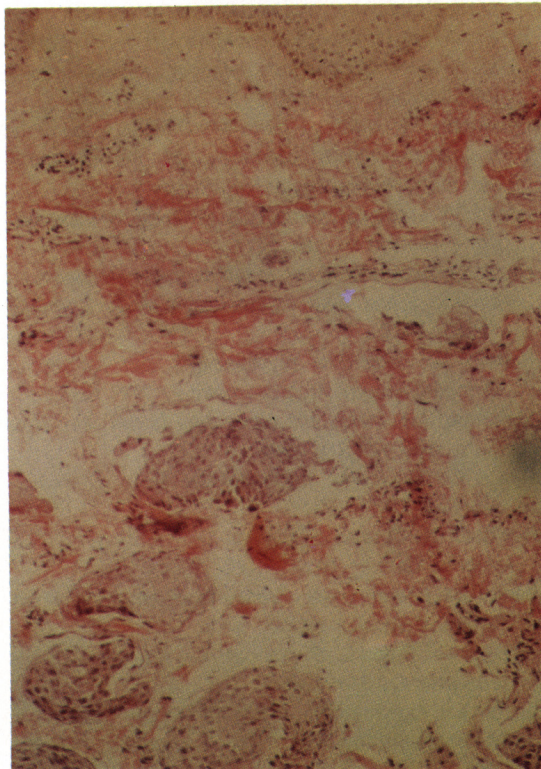


Fig. 5. Biopsy specimen from left side of the neck shows dermal lymphatics filled with clusters of tumor cells (H & E, X 100).

dition continued to deteriorate.

One month after admission the patient showed severe weight loss, lung metastasis, and ascites. He was discharged hopelessly after 2 months of admis-

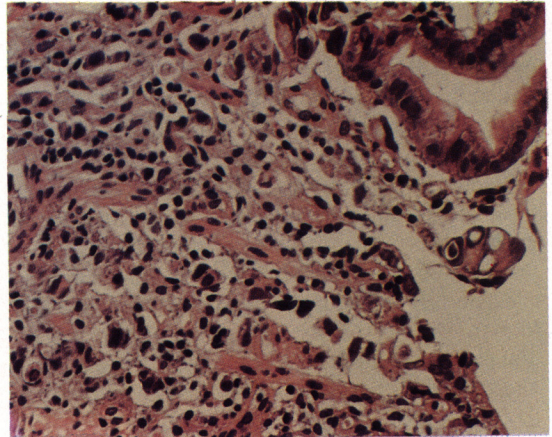


Fig. 6. Sections of antral mucosa of stomach revealed undifferentiated adenocarcinoma (H & E, X 100).

sion. On the second day after discharge the patient died.

#### COMMENT

Cutaneous metastasis may occur in one of the following ways: (1) direct spread from underlying tumors (2) direct spread through lymphatics, for example, carcinoma en cuirasse (3) dissemination through lymphatics (4) dissemination through blood stream (Beerman, 1969).

The most common clinical manifestation is that of multiple nodules that appear in one area of the body. Other forms include inflammatory and sclerodermoid metastatic growths (Brownstein & Helwing, 1973). Cancer metastasized to the skin may appear in any one or a combination of the above morphologic forms. In our case two different clinical presentations, multiple nodular eruptions on trunk, axilla, and groin, and inflammatory lesion on left side of the neck, were found.

Inflammatory metastatic carcinoma, in many cases, has been referred to as "Carcinoma Erysipeloides". Rach (1931) was the first to use the term "Carcinoma Erysipeloides" and it is the most frequently associated with breast carcinoma (Siegel, 1952; Brownstein & Helwing, 1973; Tschén & Apisarnthanarax, 1981). There have been infrequent reports of carcinoma erysipeloïdes due to carcinoma of the pancreas (Eldelstein, 1950), rectum (Hazelrigg & Rudolph, 1977), pelvic organ (Ingram, 1958), and lung (Siegel, 1952; Ingram, 1958). Carcinoma erysipeloïdes is a syndrome in which metastasis from an internal carcinoma

localized in the skin lymphatic system producing an erythematous tender area closely resembling an acute infectious process, ie, erysipelas or cellulitis. In contrast to true infections, there is an absence of fever, chills, and leukocytosis, and bacterial cultures are negative (Mehregan, 1961).

Generally there was good correlation between the histologic features of the primary lesion and that of the metastatic lesion. Adenocarcinoma metastatic to the skin was usually secondary to a tumor in the large intestine, lung or breast (Brownstein & Helwig, 1973). In men who had metastatic adenocarcinoma when first examined, the lung was the most likely primary site, in women, the ovary was a common primary site (Brownstein & Helwig, 1972).

In our case the histologic examination showed changes consistent with metastatic adenocarcinoma and the positive staining for mucin indicated gastrointestinal tract origin. The gastroscopic findings and stomach biopsy showed undifferentiated adenocarcinoma, which established the diagnosis of metastatic tumor of stomach origin. Signet ring cells with cytoplasmic mucin and laterally displaced nuclei were recognized in the histologic findings of the abdominal nodule. These cells were most commonly seen in growths metastasizing from adenocarcinoma of the stomach (Feuerman et al., 1973), but small numbers of signet ring cells were occasionally present in metastatic lesions from carcinoma of the lung and breast (Brownstein & Helwig, 1973).

We agree with Reingold (1966) that in most cases cutaneous metastasis are indicative of widespread dissemination of the tumor and early demise. Bordin and Weitzner (1972) reported that the duration of survival from the time of the diagnosis of the metastatic carcinoma in the skin averaged 11.4 weeks with a range of 2 to 34 weeks. In this case, however, the progress was much slower and the disease ran a course of eight months.

## REFERENCES

- Abrams HL, Spiro R, Goldstein N: *Metastases in carcinoma. Analysis of 1,000 autopsied cases.* *Cancer* 3:74, 1950.
- Beerman H: *Some aspects of cutaneous malignancy. Ruben Nomland Memorial Lecture.* *Arch Dermatol* 99:617, 1969.
- Bordin GM, Weitzner S: *Cutaneous metastasis as a manifestation of internal carcinoma: Diagnostic and prognostic significance.* *American Surgeon* 39:629, 1972.
- Braverman I: *Skin metastases and related disorders.* In: *Skin Signs of Systemic Disease.* Braverman I (ed) 2nd ed, W.B. Saunders Co., Philadelphia, pp 1-13, 1981.
- Brownstein MH, Helwig EB: *Patterns of cutaneous metastasis.* *Arch Dermatol* 105:862, 1972.
- Brownstein MH, Helwig EB: *Spread of tumors to the skin.* *Arch Dermatol*, 107:80, 1973.
- Connor DH, Taylor HB, Helwig EB: *Cutaneous metastasis of renal cell carcinoma.* *AMA Arch Path* 76:339, 1963.
- Eldelstein JM: *Pancreatic carcinoma with unusual metastasis to the skin and subcutaneous tissue simulating cellulitis.* *N Engl J Med* 242:779, 1950.
- Feuerman EJ, Nirie M, Lurie M: *Delayed cutaneous metastases of mucus-producing cell carcinoma of the stomach.* *Dermatologica* 146:15, 1973.
- Gates O: *Cutaneous metastases of malignant diseases.* *Am J Cancer*, 30:718 1937.
- Hazelrigg DE, Rudolph AH: *Inflammatory metastatic carcinoma. Carcinoma erysipeloides.* *Arch Dermatol* 113:67, 1977.
- Ingram JT: *Carcinoma erysipeloides and carcinoma telangiectaticum.* *Arch Dermatol* 77:227, 1958.
- Mehregan AH: *Metastatic carcinoma to the skin.* *Dermatologica* 123:311, 1961.
- Rasch C: *Carcinoma erysipeloides.* *Br J Dermatol Syphilol* 43:351, 1931.
- Reingold IM: *Cutaneous metastases from internal carcinoma.* *Cancer* 19:162, 1966.
- Siegel JM: *Inflammatory carcinoma of the breast.* *Arch Dermatol Syphilol* 66:710, 1952.
- Taboada CF, Fred HL: *Cutaneous metastases.* *Arch Intern Med* 117:516, 1966.
- Tschen EH, Apisarnthanarax P: *Inflammatory metastatic carcinoma of the breast.* *Arch Dermatol* 117:120, 1981.

Abrams HL, Spiro R, Goldstein N: *Metastases in car-*