

A Case of Disseminated Cutaneous Metastatic Carcinoma from Stomach Carcinoma

Kang Seok Lee, M.D., Hyun Sang Lim, M.D., Seong Jun Seo, M.D.,
Chang Kwun Hong, M.D., Byung In Ro, M.D.

*Department of Dermatology, College of Medicine, Chung-Ang University,
Seoul, Korea*

We report a case of disseminated cutaneous metastatic carcinoma from stomach carcinoma in a 66-year-old male who complained chiefly of widespread cutaneous nodules. He had been admitted to the Department of Internal Medicine for stomach carcinoma. A radiological examination revealed a diffuse stomach wall thickening from the fundus to the antrum, and enlargement of paraaortic and pericaval lymph nodes during an abdominal CT scan. The clinical findings manifested above may suggest cutaneous metastasis from stomach carcinoma. A histological examination of the skin and stomach biopsies showed atypical cells with pleomorphic, hyperchromatic nuclei and bubble-like cytoplasm, which are consistent with poorly differentiated adenocarcinoma. Immunohistochemical stainings showed that these cells were positive for epithelial membrane antigen (EMA), carcinoembryonic antigen (CEA) and low molecular weight cytokeratin. (*Ann Dermatol* 10:(2) 108~111, 1998).

Key Words : Cutaneous metastatic carcinoma, Stomach carcinoma

Cutaneous metastases from internal cancers are relatively rare in comparison with metastases to other organs of the body¹. The frequency of metastases to the skin varies from 0.5-4.4%^{2,3}. The most common clinical picture of cutaneous metastasis is that of aggregates of discrete, firm, non-tender, skin-colored nodules in a particular area of the body^{3,4,5}. The abdominal wall is the most common site of cutaneous metastasis from stomach cancer^{2,4,6,7}. However, a widespread and disseminated cutaneous metastasis from stomach cancer, to our knowledge, has not been reported in Korea until now. Herein we report a case of disseminated nodular cutaneous metastatic carcinoma from stomach carcinoma.

CASE REPORT

A 66-year-old man was admitted to the Department of Internal Medicine for advanced stomach cancer. He complained of widespread, painless cutaneous nodules of 3 months duration. He was referred to the Department of Dermatology for evaluation of cutaneous metastasis. Skin findings showed widespread, relatively hard, non-tender pea to bean sized nodules on the scalp, face, trunk and extremities (Fig. 1A, B, C).

Laboratory findings were as follows : white blood cell count was $12.39 \times 10^9/L$; sodium electrolyte level was 127mEq/L (hyponatremia); total protein/albumin level was 5.3/2.3 g/dL; routine urinalysis was normal; VDRL was non-reactive. An abdominal CT scan showed a diffuse stomach wall thickening from the fundus to the antrum, and enlargement of paraaortic and pericaval lymph nodes. A radiological finding showed a Borrmann type 4, advanced gastric cancer (AGC). A histological examination of biopsy specimens from the cutaneous nodule and stomach lesion showed atypical cells with pleomorphic, hyperchromatic nuclei and bubble-like cytoplasm, which are consistent

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Reprint request to : Kang Seok Lee, M.D., Department of Dermatology, College of Medicine, Chung-Ang University, Seoul, Korea

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Fig. 1. A, B, C. Multiple disseminated pea-to-bean sized, erythematous nodules on the face, chest, abdomen, and back.

Fig. 2. Biopsy specimen from the stomach shows infiltration of atypical cells with pleomorphic, hyperchromatic nuclei and bubble-like cytoplasm (H & E stain, × 200).

Fig. 3. Skin biopsy specimen taken from the cutaneous nodule reveals similar findings to the original site (H & E stain, × 200).

Table 1. Distribution site of cutaneous metastasis from stomach cancer

	Site of Metastasis											Case No.	
	Scalp	Face	Neck	Chest	Abdomen	Back	Flank	Groin	Axilla	*U/E	**L/E		Pelvis
¹⁹⁷¹ Brownstein & Helwig ⁷	1	1	2	4	16	1				1			26
¹⁹⁸¹ Park et al ⁶	1	1	1		3	1							7
¹⁹⁸⁷ Kim et al ²	4	1	3	2	10	3	1			1	1	3	29
Present case	+	+	+	+	+	+	+	+	+	+	+	+	

*U/E: Upper extremities
 **L/E: Lower extremities

DISCUSSION

The most common primary site of metastatic skin cancer in men and women is the lung and breast, respectively^{4,7}. In Korea, the frequency of primary cancer sites with metastatic skin tumors in men is the lung(31.8%), stomach(11.4%) and liver(11.4%). In the case of women, it is the breast(39.1%), uterine cervix(17.4%) and thyroid(13%)⁶. We suppose the incidence of metastatic skin tumors in men and women correlates with the frequency of these primary malignant lesions in each sex. Cutaneous metastasis may occur in one of the following ways; direct invasion to the skin from an underlying growth, continuous extension of tumor cells through the lymphatics, dissemination through the blood stream and accidental implantation of the tumor cells through the surgeon's glove or instruments⁸. A metastatic nodule to the umbilicus, Sister Mary Joseph's nodule, is the most common cutaneous metastasis of stomach origin cancer^{9,10}. In our patient, the abdominal wall around the umbilicus seemed to be the continuous extension site of primary stomach cancer cells through the lymphatics, and distant metastases to other regions were thought to be due to spread through the blood stream (Table 1). There are some cutaneous predilection sites, such as the abdominal and chest wall, the axilla, the umbilical area and the perigenital lesions. Almost all metastatic cutaneous nodules from stomach cancer are limited to a single region of the body, especially the abdominal wall^{2,4,6}, but the case of widespread and disseminated metastases, to our knowledge, has not been reported in Korean and English literature until now. Cutaneous metastases are clinically presented as nodular, inflammatory, and sclerodermoid metastatic lesions^{2,4}. The nodular type is the most common form, but cutaneous metastatic nodules are most commonly misdiagnosed as epidermal cysts and less frequently as fibromas, papillomas, lipomas, or neurofibromas, clinically unless there is knowledge of a primary tumor^{3,5}. Cutaneous metastatic nodules are most commonly solid, painless and elevated, ranging from 1 to 3 cm in diameter, and have an intact overlying epidermis^{3,5}. Our patient also showed disseminated relatively hard, non-tender, pea-to-bean sized nodules (Fig. 1A, B, C).

Metastatic lesions from stomach carcinoma

Fig. 4. A positive reaction to the immunohistochemical stain (EMA, CEA, CK, $\times 100$).
EMA:epithelial membrane antigen
CEA:carcinoembryonic antigen
CK:low molecular weight cytokeratin

with poorly differentiated adenocarcinoma (Fig. 2, 3). Immunohistochemical stainings showed that these atypical cells were positive for epithelial membrane antigen (EMA), carcinoembryonic antigen (CEA) and low molecular weight cytokeratin (Fig. 4).

A diagnosis of disseminated cutaneous metastatic carcinoma from stomach carcinoma was made, but he could not be treated because of his poor general condition. He died of ARDS (adult respiratory distress syndrome) 4 months after the appearance of the cutaneous lesions.

show various histological patterns and can be classified as adenocarcinoma, signet ring cell carcinoma, and undifferentiated carcinoma⁴. Generally there are good correlations between the histological features of the primary lesion and those of the metastatic lesion^{2,4}. Biopsy specimens of our patient, both skin and stomach lesions, showed poorly differentiated adenocarcinoma composed of atypical cells with polymorphic, hyperchromatic nuclei and bubble-like cytoplasm (Fig. 2, 3). Immunohistochemical staining was performed and these atypical cells were positive for EMA, CEA, and low molecular weight cytokeratin, which further supported metastatic skin carcinoma from the stomach adenocarcinoma (Fig. 4).

In approximately one third of the patients, cutaneous metastasis follows within six months of recognition of the primary tumor; in about half of the patients, within one year; in more than 90%, within five years⁴. Metastatic skin tumors are indicative of progression of the primary tumor and early fatal termination. In general the duration of survival is six months after the appearance of the skin tumor¹¹⁻¹⁵. Our patient died of ARDS (adult respiratory distress syndrome) four months after the appearance of the cutaneous lesion.

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