

Three Cases of Cutaneous Metastatic Carcinoma from Internal Malignancy

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Cutaneous metastases from internal malignancy are relatively rare. Three cases of cutaneous metastases, two from lung cancer and one from breast cancer are reported.

Case 1—cutaneous metastasis from bronchioloalveolar carcinoma of the lung, where four erythematous to pinkish pea sized smooth surfaced nodules on the scalp were noticed for 2 years in a 48-year-old man.

Case 2—cutaneous metastasis from adenocarcinoma of the lung, where two hard tender freely movable subcutaneous nodules, about 3 cm in diameter on the lateral chest wall were noticed for 6 months in a 61-year-old woman.

Case 3—cutaneous metastasis from infiltrating ductal carcinoma of the right breast, where a hard, violaceous, non-tender plaque (8×6.5 cm) on the right areolar area was noticed for 4 months in a 47-year-old woman. (Ann Dermatol 4:(2) 95–98, 1992)

Key Words: Cutaneous metastasis, Internal malignancy

The frequency of metastases to the skin from internal malignancy is 0.7–9.0%¹⁻³. In Korea, Kim et al⁴ found the stomach to be the most common primary site of carcinoma in men and the breast to be the most frequent primary site of carcinoma in women.

Metastatic lesions to the skin are usually single but multiple in some cases. They appear as nodules, ulcerations, pustules, vascular lumps, occasionally plaques, and carcinoma erysipelatoides^{4,6}.

We report three cases of cutaneous metastases from internal malignancy.

REPORT OF CASES

Case 1. A 48-year-old man visited our hospital with a complaint of four, firm, erythematous to pinkish, dome-shaped nodules about 5 mm in di-

ameter on the scalp for 2 years (Fig. 1). Chest and abdominal roentgenograms and computed tomographic scan revealed lung cancer with distant metastasis. Biopsy specimens from supraclavicular lymph node and lung through transbronchial endoscopy, bronchial washing and sputum cell block showed bronchioloalveolar carcinoma. The nodules on the scalp were found to be metastatic carcinoma from primary pulmonary lesions (Fig. 2). In spite of treatment with chemotherapy (cytotoxic, adriamycin, vincristine), he died of respiratory failure 3 months later.

Case 2. A 61-year-old woman visited our hospital with a complaint of two, hard, tender, freely movable subcutaneous nodules on the right lateral chest wall for 6 months (Fig. 3). Six months prior to this visit, she was admitted to the department of internal medicine due to chest pain. Percutaneous pleural needle biopsy revealed chronic nonspecific inflammation. The skin lesions developed at the site of previous percutaneous pleural needle biopsy. The biopsy from the skin lesion showed metastatic adenocarcinoma (Fig. 4). Chest and abdominal roentgenograms and computed tomographic scan revealed atelectasis on the

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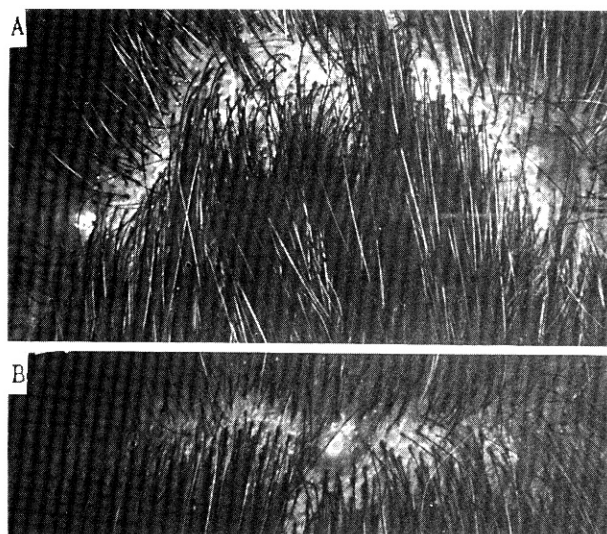


Fig. 1. Four, pea sized, firm, dome-shaped nodules on the parietal(A) and occipital scalp(B) (Case 1).

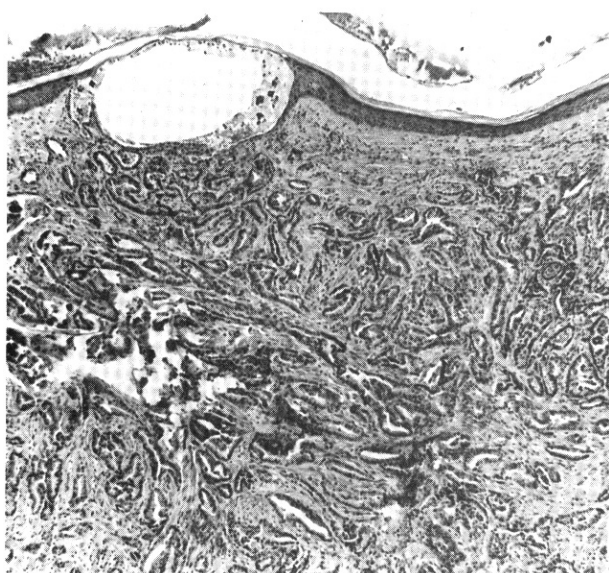


Fig. 2. Biopsy specimen from scalp lesion shows bronchioloalveolar carcinoma in the dermis (H&E, $\times 40$, Case 1).

right upper and middle lung fields, metastases with multiloculated effusion, and peritoneal seeding with multiloculated ascites. Tc^{99m} bone scan showed multiple hot uptakes in the right upper scapular portion, the 3rd and 8th ribs, and the pelvic bone. Ultrasonography of the abdomen showed multiple tiny irregular nodules in the serosal surface of bowel loop in the right side of the abdomen. The pleural biopsy after the development of skin lesion was not performed due to patient's refusal. We suggested that the cutane-

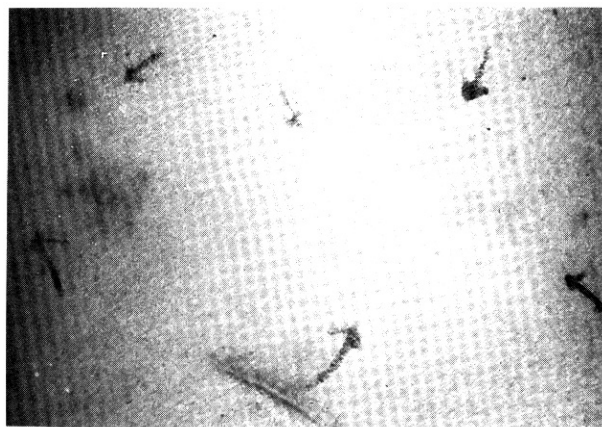


Fig. 3. Two, hard, freely movable subcutaneous nodules, about 3 cm in diameter on the right chest wall (Case 2).

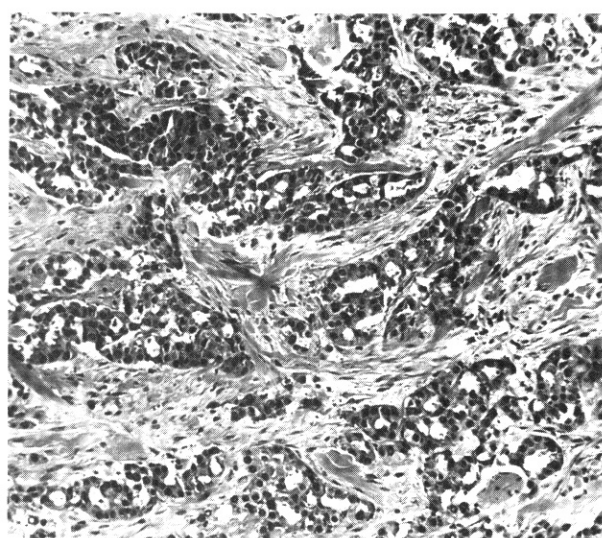


Fig. 4. Biopsy specimen from the skin lesion shows adenocarcinoma (H&E, $\times 100$, Case 2).

ous lesions were metastasized from lung cancer through the needle biopsy to pleura and abdominal cavity. Patient has refused treatment resulting in the aggravation of the skin lesion as well as her poor general condition

Case 3. A 47-year-old woman visited with a complaint of a hard, violaceous lobular, plaque (8 by 6.5 cm) on the areolar area of the right breast for 4 months (Fig. 5). Chest roentgenogram revealed pleural thickening at the right minor fissure. Bone scan showed hot uptakes in the skull, T-L spines, ribs, pelvis, and the right proximal femur. Bronchial washing and sputum cell blocks were negative for malignancy. Biopsy from skin lesion revealed infiltrating ductal carcinoma of the breast

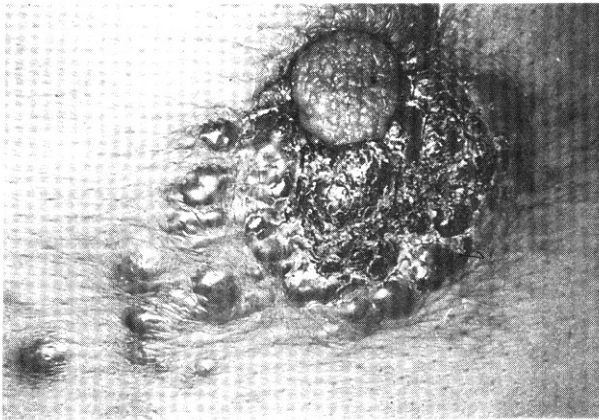


Fig. 5. A hard, 8×6.5 cm sized plaque and satellite nodules on the right breast (Case 3).



Fig. 6. Infiltrating ductal carcinoma on the specimen from the skin lesion (H&E, ×400, Case 3).

(Fig. 6). We supposed that she has breast cancer with metastasis to the overlying skin and other sites. She was treated with chemotherapy (cytotoxic, adriamycin, 5-fluorouracil). Her general condition improved with stationary skin lesion.

DISCUSSION

Cutaneous involvement from internal malignancies is rare in comparison with metastasis to other

organs of the body⁵. Only 1.3% skin involvement was present at diagnosis of internal malignancy³. The incidence of the skin metastasis differs greatly among the primary malignant tumors⁷. Even though there is a high incidence of stomach and uterine cervical carcinoma in Korea, the metastasis to the skin was less frequent than to the other organs^{4, 5}. Most of the cutaneous metastases occurred after the primary malignancy was manifested and well advanced: only a few cases presented as the initial sign of the malignancy⁶. All three of our cases showed cutaneous manifestations after the diagnosis of the primary malignancy.

The common locations of cutaneous metastasis, in descending order of frequency, were the chest, neck, scalp, abdomen, shoulder, and back⁸. Clinically, lung cancer may be signaled quiescent⁸. Metastasis from carcinoma of the breast to the skin occurred almost exclusively in women, tended to be localized in the anterior chest wall, back, and scalp, and was usually found after the primary tumor^{5, 6, 9}.

The cutaneous metastases did not have a uniform or distinctive gross appearance⁸. They presented as painless, discrete skin masses either solitary or multiple, round or ovoid, fixed or movable, firm or rubbery⁸. Inflammatory metastatic lesions of the skin that have the clinical hallmarks of an acute inflammatory process may actually represent secondary deposits of malignant tumors in subepidermal lymphatic vessels^{10, 11}. It was associated most commonly with the breast carcinoma, of which the tumor cells almost always showed infiltrative growth patterns with variable amounts of connective tissue stroma⁵. Metastatic nodules are frequently observed in or near the scars of surgical operations for attempted removal of the primary tumors, and are usually found within one year following surgery⁵.

Cutaneous metastasis may occur in one of the following ways⁵; (1) direct invasion of the skin from underlying growth; (2) continuous extension of tumor cells through lymphatics; (3) lymphatic emboli; (4) hemic emboli; (5) accidental implantation of the tumor cells through the surgeon's glove or instruments. We thought that the first case may have spread through hemic emboli, the second case through accidental implantation of

tumor cells through the biopsy route, and the last case by direct invasion from underlying breast cancer.

Skin metastases serve both as detectors of the disease and as extremely sensitive monitors of response to chemotherapy⁸. A cutaneous metastasis may occur in the presence of a clinically silent internal malignancy or may occur late in the disease⁶. In the latter case, it is not surprisingly believed to portend a bad prognosis⁶. The frequency of skin metastasis and the mortality of the primary cancer were correlated⁷. Death within one year has been reported in 68% of the patients with skin metastases from internal malignant tumors in Japan¹². Our first patient died 3 months after the diagnosis of metastatic skin cancer. In conclusion, non-healing ulcers, persistent indurated erythema, and all skin nodules of undetermined cause should be biopsied for further detection of skin manifestations of internal malignancy.

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