

# Cutaneous Metastasis from Prostatic Carcinoma

Han-Dong Yoo, M.D., In-Sung Cho, M.D.\*

Department of Dermatology, Internal Medicine\*, Eulji Medical College,  
Taejon, Korea

Prostatic carcinoma is one of the most common malignancies in males of western countries but it is a rare malignancy in Korea. If it occurs, it commonly metastasizes to other organs. In spite of its high incidence of distant metastasis, the cutaneous metastasis of the prostatic carcinoma is very rare and seems to have a poor prognosis. A 67-year-old man presented multiple nontender nodules on the skin of the right thigh and had episodes of multiple metastases from prostatic carcinoma to the lungs and bones. Histopathologic findings of the skin showed atypical cells infiltration at the dermis. Immunohistochemical staining for prostate specific antigen showed a positive reaction, therefore, we reached the diagnosis of cutaneous metastasis from prostatic carcinoma. (*Ann Dermatol* 12(2) 114~116, 2000).

*Key Words* : Prostatic carcinoma, Cutaneous metastasis

The prostatic carcinoma usually metastasizes to the bones, lung, liver and adrenal glands<sup>1</sup>. But cutaneous metastasis from prostatic carcinoma is very rare. When it occurs, metastasis usually appears as multiple nodules, involving the suprapubic area and the anterior aspects of the thighs<sup>2</sup>.

## CASE REPORT

The patient, a 67-year-old man, was presented with multiple nodules on the right thigh which were first noticed three months before. He was referred to our department for assessment of the cutaneous lesions. In past history, he was diagnosed as prostatic carcinoma with metastases to both lungs 2 years ago. He was treated with chemotherapies and ketoconazole, and bilateral orchiectomy was performed. But during the treatments, multiple

bone metastases to the ribs, pelvic bones and vertebrae developed (Fig. 1). Finally, he was admitted for a cerebrovascular attack. Skin examination disclosed multiple nontender nodules on the medial side of the right thigh (Fig. 2). A skin biopsy was performed and showed atypical cell infiltration at the dermis (Fig. 3, 4). Immunohistochemical staining of the skin for prostate specific antigen (PSA) showed a positive reaction, therefore, we reached the diagnosis of cutaneous metastasis from prostatic carcinoma. But he rejected further treatments for the prostatic carcinoma, and he died a few months later.

## DISCUSSION

The carcinoma of the prostate is one of the most frequent malignancies in males of western countries and it commonly metastasizes to other organs<sup>1</sup>. In Korea, it shows a lower incidence and is the third most common urinary malignancy in males<sup>3</sup>. In spite of its high incidence of metastases, cutaneous metastasis is very rare. In a series of cutaneous metastases, Brownstein et al<sup>4</sup> found a prostatic origin in only 1% of males and Held et al<sup>5</sup> found an incidence of 0.3% of cutaneous metastases in a series of 961 patients with prostatic carcinoma.

Cutaneous metastases have three different clinical patterns: 1) nodular, 2) inflammatory or erysipeloid, 3) en Cuirasse or sclerodermoid<sup>6</sup>. And the most com-

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Reprint request to : Han-Dong, Yoo, M.D., Department of Dermatology, Eulji Medical College, 24-14, Mok-dong, Chung-gu, Taejon, 301-726, Korea.

Tel : 82-42-259-1354, FAX : 82-42-259-1111

E-Mail : hdyoo@emc.eulji.ac.kr

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**Fig. 1.** Bone scan showed an increased uptake in the ribs, pelvic bones and vertebrae.

**Fig. 3.** Densely aggregated cellular infiltration in the dermis(H & E stain,  $\times 100$ ).

mon pattern is multiple nodules involving the suprapubic area and the anterior aspect of the thighs<sup>2</sup>. Our case also expressed a similar pattern. But we could see a different aspect in that the lesions were almost limited to the medial side of the right thigh.

Histopathologic findings of cutaneous metastasis showed the usual structures, similar to those of primary carcinoma<sup>6</sup>. In the case of cutaneous metastasis from prostatic carcinoma, histopathologic findings showed the dermal sheets of anaplastic cells focally

**Fig. 2.** Erythematous nontender nodules on the medial side of the right thigh.

**Fig. 4.** Hyperchromatic, irregular contour of nucleus and mitotic figure(H & E stain,  $\times 400$ ).

arranged in primitive glandular formations<sup>7</sup>. However, our case did not present such definite findings and we thought that our case consisted of a poorly differentiated carcinoma. The immunohistochemical study for PSA also demonstrates the origin of metastatic tumor from prostate<sup>8</sup>. In our case, we could see the positive finding for PSA, therefore, we reached the diagnosis of cutaneous metastasis from prostatic carcinoma. PSA is also helpful in the follow up of patients, and the elevated serum level of PSA shows a correlation with advanced metastatic stage<sup>9</sup>. In our case, the level of PSA was elevated from initial diagnosis of prostatic carcinoma with lung metastasis. But follow-up checks still showed the elevation of PSA level and found other metastases. This led us to believe that the high levels of PSA were related to the processing of metastases or higher activity of the disease.

Most authors believe that cutaneous metastasis appears late in the disease and it is a sign of poor prognosis<sup>2</sup>. However, Marquis *et al*<sup>10</sup> stated that skin metastases per se are not necessarily indicative of a poor prognosis and the prognosis should be based on the histopathologic potential of the neoplasm as well as total organ involvement. But our case presented multiple internal metastases before cutaneous metastasis developed, and he died soon after the diagnosis of cutaneous metastasis. We also feel that cutaneous metastasis is not a sign of poor prognosis but it usually appears as a late sign, which looks like a poor prognosis. The real prognostic factors are related to the extent of disease involvement, histopathologic types of original tumors, the responsiveness to therapy and other multiple conditions.

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