A Case of Metastatic Renal Cell Carcinoma Mimicking Granuloma Pyogenicum

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Renal cell carcinoma (RCC) is well known for its frequent metastasis and particularly to the lungs, liver, bones and brain, but metastasis to the skin is rare. We report here on a case of metastatic RCC in a 73-year-old man who presented with a 1.5 cm sized, moist, beefy-red and exophytic nodule on the scalp. The lesion had grown rapidly for 2 months and it clinically mimicked granuloma pyogenicum. A skin biopsy revealed a solid mass composed of clear cells with clear cytoplasm and oval hyperchromatic nuclei, and they were arranged in an alveolar pattern. As skin metastasis from renal cell carcinoma signals widespread systemic metastasis and a poor prognosis, clinicians should conduct a careful inspection of the skin of a patient with RCC and they should also have a high index of suspicion for finding a primary internal organ malignancy in the RCC patients who present with a skin lesion.

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INTRODUCTION

Renal cell carcinoma (RCC) accounts for 2∼3% of all adult malignancies and the incidence of cutaneous metastasis from this tumor is 2.8∼6.8%1. Metastasis from renal cell carcinoma to the internal organs such the lung, lymph nodes and bone is well known, but there are far fewer reports of metastasis to the skin.

Cutaneous metastasis of RCC is extremely uncommon with only a handful of reports in the literature. We report here on a case of renal cell carcinoma that presented as a solitary cutaneous lesion that mimicked granuloma pyogenicum on the scalp.

CASE REPORT

A 73-year-old man presented with a nodule on his vertex. He had noted this lesion 2 months previously, and it had rapidly increased in size. Examination of the skin revealed a 1.5 cm sized, moist, beefy-red and exophytic nodule, which clinically mimicked granuloma pyogenicum (Fig. 1). Four years previously, he had visited our hospital where he underwent abdominal computed tomography, and this showed a mass on the right kidney. A radical nephrectomy was performed at that time and this revealed an 8 cm sized intraparenchymal mass. The lymph nodes were negative for metastatic disease and the patient had negative findings on the chest radiographs and computed tomography. According to the TNM staging system, he had stage II disease and no adjunctive therapy was required. However, 5 months previously, a CT scan of the chest and abdomen showed evidence of a nodule on the right lung. Percutaneous needle aspiration biopsy on the right lower lobe revealed atypical
Clear cells and this suggested that RCC had metastasized to the lung. For further evaluation, an ultrasound sonography-guided lung biopsy was recommended, but he refused.

A skin biopsy revealed a solid mass composed of clear cells with clear cytoplasm and oval hyperchromatic nuclei (Fig. 2). The nests of clear cells were arranged in an alveolar pattern. The cytoplasm of the tumor cells stained positive for epithelial membrane antigen (EMA) and cytokeratin (Fig. 3), but the staining for carcinoembryogenic antigen (CEA) was negative. The histologic diagnosis was metastatic RCC. It has now been two and a half years since the diagnosis, and the patient is alive and doing well after mass excision.

Fig. 1. A 1.5×1.5 cm sized, moist, beefy-red and exophytic nodule was found on the vertex.

Fig. 2. (A) The nodule was composed of clear cells with hyperchromatic nuclei and abundant clear cytoplasm (H&E, ×100). (B) The nests of clear cells were arranged in a honeycombed or glandular configuration (H&E, ×400).

Fig. 3. The cytoplasm of the tumor cells stained positive for EMA (×400) (A) and cytokeratin (×400) (B).