

Case Report

Osseous metastasis of cutaneous squamous cell carcinoma treated successfully with oxaliplatin, tegafur and leucovorin combination chemotherapy: a case report

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Abstract: Bone metastasis from cutaneous squamous cell carcinoma (SCC) is rare. We report a case of cutaneous SCC which was diagnosed by the presence of bone metastasis and treated with combination chemotherapy. A 53 year male had tissue contusion and persistent ulcer in the multiple regions of body for about 30 years and treat with Chinese Herbal Drugs in several hospitals, however, did not thorough cure. He was referred to our hospital for a dermatological examination in March 2009. Excisional biopsy and positron emission tomography-computed tomography (PET-CT) scan showed an invasive cutaneous SCC concomitant bone metastasis. Surgical treatment is limited, because of multiple cancerous ulcer and metastatic spreading. Therefore, we proceed to treat with oxaliplatin, tegafur and leucovorin (LV) combination chemotherapy and other adjuvant therapy. About 5 months following chemotherapy, the general situation of the patient was improved. Further cycle of chemotherapy resulted in complete disappearance of the tumor masses (confirmed by PET-CT). So far, there was no evidence of local recurrence or distant metastasis. This report indicates that the combination chemotherapy of oxaliplatin, tegafur and LV seems to have a considerable therapeutic effect for cutaneous SCC concomitant malignant bone metastasis.

Keywords: Cutaneous squamous cell carcinoma, bone metastasis, chemotherapy, PET-CT

Introduction

Cutaneous squamous cell carcinoma (SCC) is the second most common skin cancer, most frequently occurring on sun-exposed areas of the body [1]. Bone metastasis from cutaneous SCC is rare. We report a case of cutaneous SCC which was diagnosed by positron emission tomography-computed tomography (PET-CT) scan that showed an invasive bone metastasis and successfully treated with combination chemotherapy.

Case report

A 53-year-old mongolian man presented with thirty years history of squamous skin erythema, desquamation and pruritus over his trunk and extremities. The multiple erythematous papula had first brought him to other hospital in 2001. The initial diagnosis was "psoriasis", the symp-

toms have relieved when treated with oral supplement of bone paste and phototherapy, whereas, primary symptom recurrence following cessation of treatment. In addition, despite the patient who was treated with other Chinese herbal medicines has some ease, did not thorough cure. He visited our department in March 2009 because of recent rapid growth and tenderness of ulcerated exophytic multiple lumps on both lower extremities, ulcer accompany with bleeding and pain.

Physical examination presented with an ulcerated exophytic multiple lumps on both lower extremities of the patient, with broken or lesions over the skin (**Figure 1**). Palpable lymph nodes over the both groins were found. X-rays revealed an osteolytic lesion on the tibia. Bone scintigraphy was carried out and showed isotope accumulation in the tibia and right pubis. Bone metastatic lesions were examined further by PET-

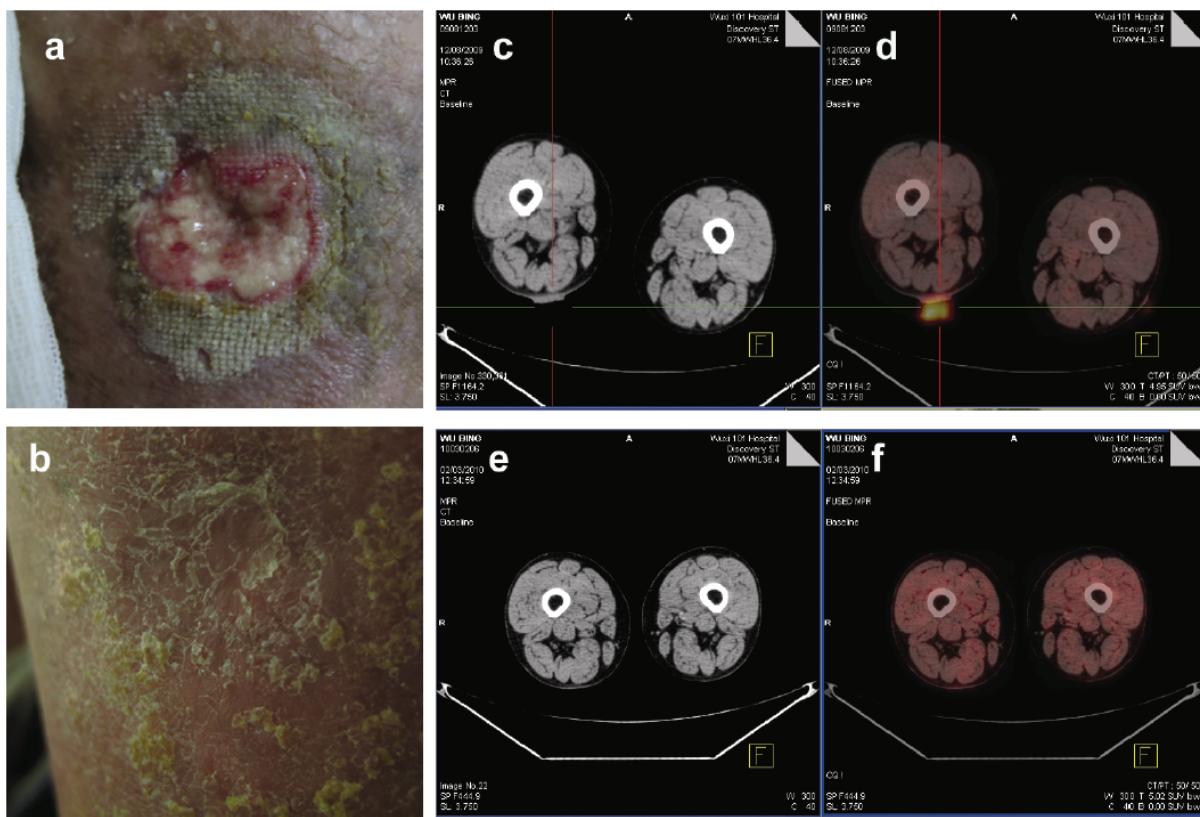


Figure 1. These photographs document complete response to treatment. (a) Pre-therapy, outside ulcerated exophytic lumps; (b) At month 6 of treatment, the patient had marked flattening of skin nodules; (c, d) Imaging before treatment, representative bone metastasis is visible on the PET-CT scan; (e, f) Imaging after 8 cycles of chemotherapy, complete disappearance of bone metastasis can be seen.

CT scans of the whole body demonstrated a multiple subepidermic tumor, irregular solid mass and the large one was about 5 cm in diameter, located in the left lower extremity (**Figure 2**). Biopsy specimens were obtained from the lesion skin of both lower extremities and confirmed malignant nature of the process and diagnosis of cutaneous SCC was suggested (**Figure 3**).

A complete resection would be difficult, because of multiple cancerous ulcer and invasion of the bone. Therefore, he was treated with a neo-chemotherapy in combination with oxaliplatin 130 mg/m² as a 2-hour infusion on day 1 followed by tegafur 15 mg/kg and leucovorin (LV) 200 mg/m² as a 2-hour infusion on day 1-5. Zoledronic acid 4 mg intravenously on day 1 for pain relief. Adjuvant treatment with thymopentin (TP5) 1 mg/day (intramuscular injection every 2 days) and lentinan (LNT) 1 mg/day (intramuscular injection every 3 weeks) were

recommended to boost immune system on day 1 after finish the chemotherapy. Meanwhile, the patient was treated with topical tretinoin and carmofur on the lesion. This treatment was repeated every 3 weeks. About 5 months of chemotherapy for seven cycles, the patient's complaint was relieved and the general situation was improved. Further cycles of chemotherapy resulted in significant reduction of the tumor masses. A PET-CT scan obtained following the completion of eight cycles of this treatment regimen showed the complete disappearance of lymph node and bone metastasis. At the last follow up, 16 months after completion of treatment, there was no evidence of local recurrence or distant metastasis.

Discussion

The cutaneous SCC does less occur in patients with bone metastasis; furthermore, few studies have reported that patients were detected by

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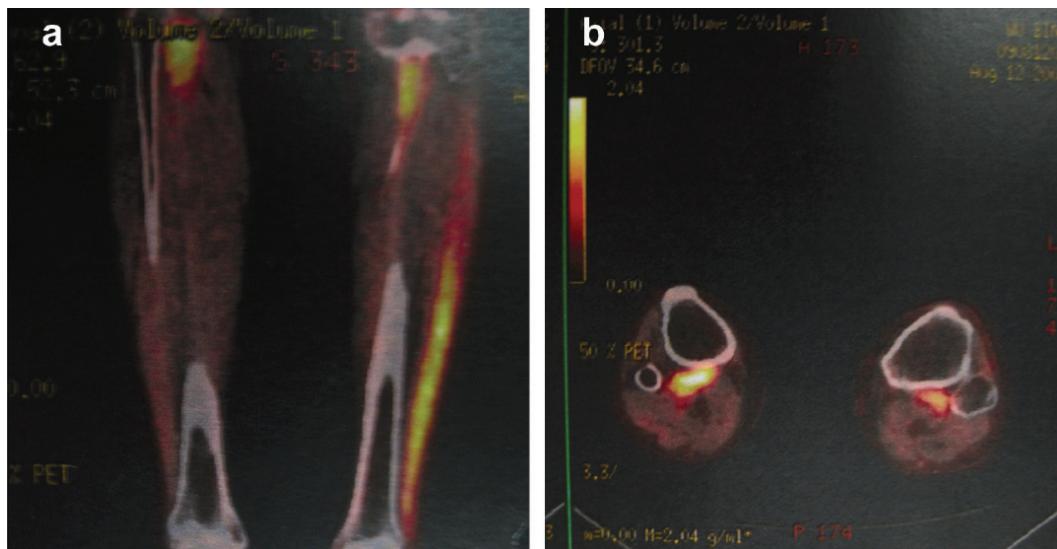


Figure 2. PET-CT scan of both lower extremities. (a) Radioactivity anomalous accumulation under both knee and lateral border of left leg; (b) The substantia corticalis of tibia was invaded by cross-sectional display.

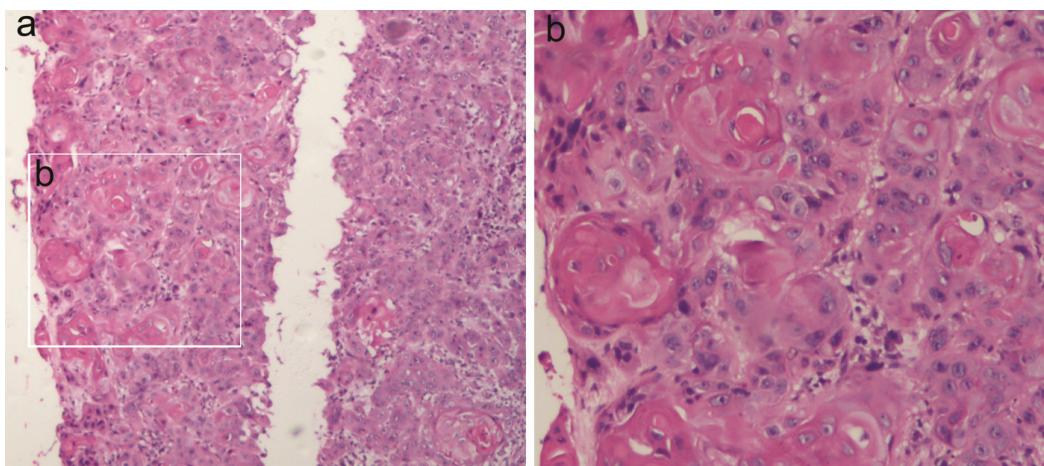


Figure 3. Microscopic features of the biopsy specimen of the lesion skin. The tumor consisted of large, atypical, squamous epithelial cells with abundant keratin formation and keratin pearl were also detected, histological proven moderately differentiated squamous cell carcinoma. H&E, x 100 (a) and x 200(b).

PET-CT and chemotherapy in oxaliplatin combine tegafur and LV. Clinically, cutaneous SCC often appears as a persistent, red, scaly papule or patch which may bleed spontaneously [2]. Although most patients with primary cutaneous SCC have an excellent prognosis, for those with metastatic disease, the long-term prognosis is poor. The 5-year rate of metastasis from primary cutaneous lesions is 5% [1]. The incidence of metastasis increases when the lesions are > 2

cm in width or 4 mm in depth. The most common sites of metastasis are regional lymph nodes, lung, liver, brain, and skin [3]. But, metastatic bone tissue SCC from cutaneous lesions is a rare event. The majorities of cutaneous SCC concomitant metastasis can be cured with aggressive wide local excision. However, on occasion they can be quite aggressive locally, with or without associated distant metastasis; surgical treatment is limited and may require a radio-

therapy or chemotherapy approach. Oxaliplatin is a third generation platinum compound drug, has shown efficacy against many tumor cell lines, including some that are resistant to cisplatin and carboplatin [4]. In treating SCC, oxaliplatin has been increasingly recognized [5]. The tegafur is a convenient and well tolerated alternative to intravenous 5-fluorouracil (5-FU). In phase III studies, tegafur with LV had equivalent efficacy compared to that of intravenous 5-FU/LV, but with significantly better tolerability [6]. A number of studies have shown that tegafur plus LV can be combined with oxaliplatin [7], those combinations being effective and well tolerated in first-line metastatic colorectal cancer, with minimal neurotoxicity and hand-foot syndrome [8]. The adverse effects we encountered in our patient were leukocytopenia, anemia, diarrhea and vomiting; there were no severe symptoms. PET/CT scan is a valuable tool in staging and remission evaluation in patients with SCC [9]. The whole-body PET/CT scan played an important role in guiding further investigation and enhancing an accurate and early diagnosis for patient [10]. In remission evaluation, the new response criteria recommend PET to patients with residual tumours and if negative the patient is considered to be in complete remission.

This is, to our knowledge, the first case of acute cutaneous SCC and bone metastasis in a patient treated with combination therapy containing oxaliplatin, tegafur and LV. The patient who was diagnosed and assessed by PET-CT was not treated by surgery due to lymph node and bone metastasis, and treated with oxaliplatin, tegafur and LV combination chemotherapy, with minimal adverse effects. This is the first published cases of PET-CT use in diagnosing osseous metastasis of cutaneous SCC. Response to oxaliplatin, tegafur and LV combination chemotherapy was evident. At the last follow up, 16 months after completion of treatment, there was no evidence of local recurrence or distant metastasis. However, clinical trials are difficult to conduct due to the rarity of bone metastasis from cutaneous SCC. Therefore, there is still much to be learned about its treatment.

Acknowledgements

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