A severe case of cutaneous squamous cell carcinoma keratoacanthoma type in a 55-year-old man

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Cutaneous squamous cell carcinoma (SCC) is the second most common nonmelanoma skin cancer. The clinical features of SCC typically include scaly, crusted, nonhealing, ulcerative lesions in sun-exposed areas of the body. We present here the interesting case of a patient who was diagnosed with extremely severe SCC, keratoacanthoma-type (KA; SCC-KA type) with multiple annular, crusted, papular lesions (8-20 mm) on the dorsal aspect of his hands and forearms. The patient was successfully treated with cetuximab over 78 days, with complete resolution.

Case presentation

A 55-year-old white man presented to us with large, clustered, nonhealing ulcers mainly on his arms, which had progressively worsened in the past 12-14 months. The lesions were described as pruritic and very painful, often only relieved by "digging them out." He also complained of recent weight loss and fatigue. The lesions initially presented as small comedone-like, burning, pruritic lesions on his upper extremities during the previous 10 years. The patient had been in good health with no major medical issues. He had a 41 pack-year history of smoking, and drank 7-8 beers a day, but had abstained from both in the 6 months before he presented. The patient had driven a truck for several years, during which time he had worked with materials such as alloy, chromium, silicone, burnt coal, arsenic, sewage sledge, asphalt, and diesel fuels. He also had constant exposure to well water for 5 years while he worked for a concrete company. Because of the nature of his occupation, the patient had had significant sun exposure throughout his life, with mild to moderate sun burning. Over the 10-year period with progressive worsening of the lesions, the patient had tried numerous home remedies and creams to ease the symptoms, including aloe, umbrella plant, wart remover, calamine lotion, peroxide, and vitamin A, but all with no relief.

On examination, we found 40-50 large, eruptive, annular, crusted, nonhealing ulcers of about 8-20 mm in size located on the dorsal aspects of his hands and forearms. We also noted a few lesions on his upper thighs and on his back below his neck. Two lymph nodes of 1 cm and 2 cm in size were noted in the left axilla; both were firm but mobile. Pathological results of the skin lesions revealed multiple sites with SSC-KA-type. The patient had been referred to us by his dermatologist for an oncology consult because he was deemed not amenable to local therapy because of the multiplicity and extent of lesions (Figure 1, A). The patient's laboratory results for complete blood count, the comprehensive metabolic panel, lactate dehydrogenase and thyroid-stimulating hormone (TSH) tests, and uric acid levels were within normal limits, except for elevations in the monocyte count (patient, 13.6%; normal, 4%-11%) and eosinophil count (patient, 7.5%; normal, 0%-5%). Tests for HIV and hepatitis B and C antigens were negative. Computed tomography imaging of the chest, abdomen, and pelvis revealed no significant abnormalities.

The patient was given 15 weeks of cetuximab, a chimeric (mouse-human) monoclonal antibody, and an epidermal growth factor receptor (EGFR) inhibitor. Cetuximab 400 mg/m^2 was infused over 90 minutes for the first treatment, then cetuximab 250 mg/m^2 was infused over 60 minutes for the subsequent 14 weeks. The treatment was well

Manuscript received June 25, 2012; accepted July 17, 2012.
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Disclosures The authors have no disclosures.

Commun Oncol 2013;10:128-130
DOI: 10.12788/j.cmonc.0008

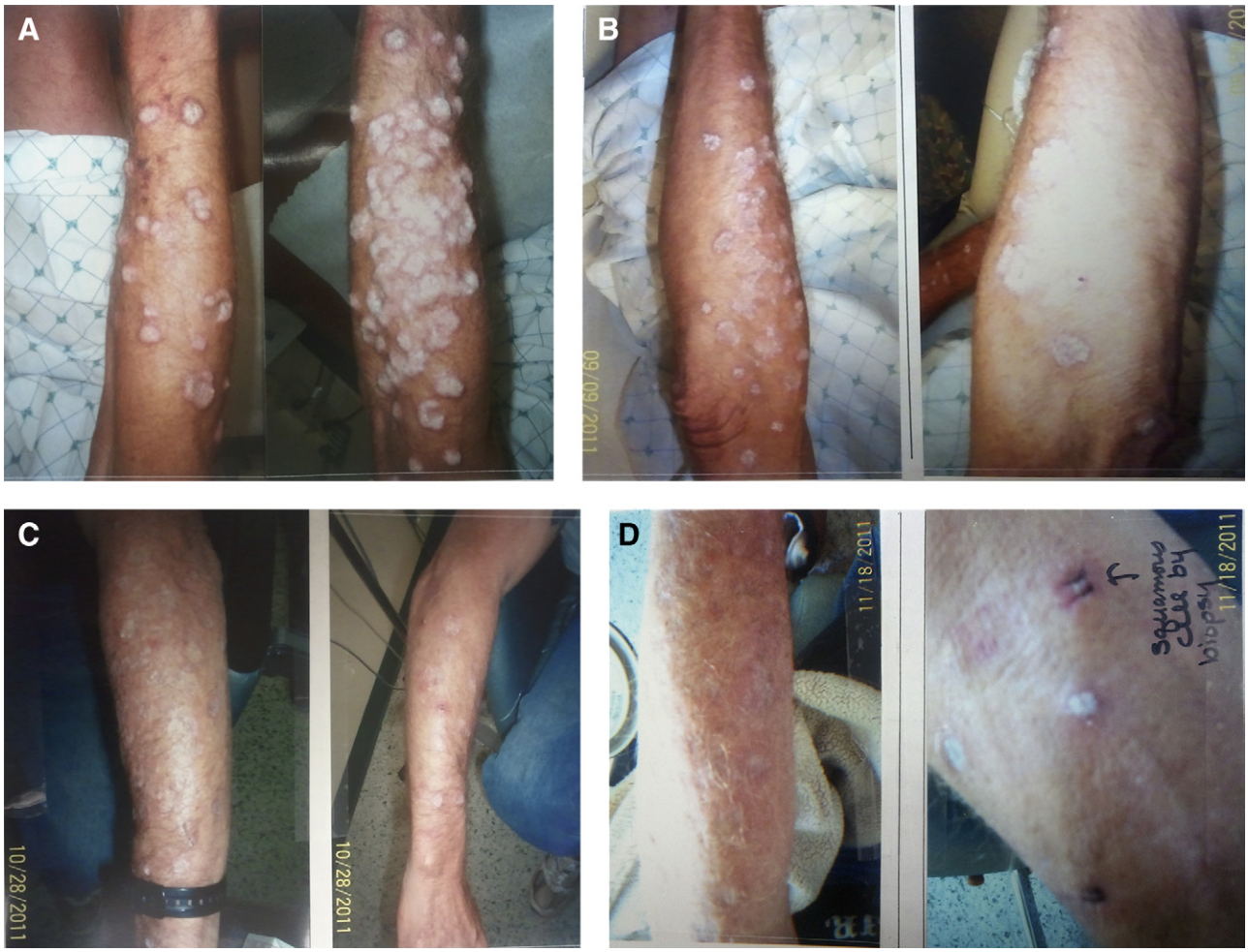

FIGURE 1 Periodic images displaying regression of disease in both arms of patients throughout treatment. A, On presentation before chemotherapy treatment. B, 36 days into treatment. C, 57 days into treatment. D, 78 days into treatment.

tolerated. There was significant regression of the cutaneous lesions was noted by 36 days into treatment (Figure 1, B) and again at 57 days (Figure 1, C). By the end of the treatment 78 days later, all of the lesions had resolved (Figure 1, D).

Discussion

Cutaneous cancer is one of the most common malignancies found today in the United States, and SSC comprises about 20% of cases. Cutaneous SCC is known to arise mainly from sun exposure, though it has also been reported as developing from exposure to ionizing radiation, human papillomavirus, arsenic, polycyclic aromatic hydrocarbons (ie, coal tars, cutting oils, pitch), or injured or chronically diseased skin.[1] Our patient had come into contact with several of these possible carcinogens, so his skin condition may have developed from years of constant exposure to them. Optimal therapy varies with disease stage. Current recommendations for treating local disease are excision, curettage and electrodessication, cryosurgery, or 5-fluorouracil therapy. It is often difficult to distinguish between KA type and SSC because they present similarly both clinically and pathologically. Most KA cases are self-limited and regress within months, so it is recommended that they are treated either by excision, topically, or with chemotherapy.

Chemotherapy is recommended for advanced disease, such as the case presented here. Few treatment regimens are available for recurrent or metastatic SCC, and no regimen is considered as standard. Cisplatin-based combination therapy is commonly used, and although response rates are high, side effects include myelosuppression, dose-cumulative peripheral neuropathy and nephrotoxicity, sensorineural hearing loss, and severe emesis.[2] Other chemotherapies have been used, including

paclitaxel, bleomycin, and 5- fluorouracil.[3] We used cetuximab in our patient because it allowed him to continue working while he receive his treatments.

Cetuximab is a chimeric human-murine monoclonal antibody that binds competitively and with high affinity to the EGFR, after which it can inhibit cell proliferation, enhance apoptosis, and reduce angiogenesis, invasiveness, and metastasis.[3] Serious cetuximab-related toxicities include hypersensitivity, infusion reactions, and interstitial lung disease, with the most common complaint in 70%-80% of patients being acneiform rash. Furthermore, the use of cetuximab has proven useful in a number of extreme or resistant cases.[3-9] Except for mild acneiform rash, our patient did not have any significant side effects and was able to continue working throughout his treatment course.

It is our observation that this novel chemotherapy regimen proved useful for our patient's extreme case of cutaneous SCC-KA type. The use of cetuximab as a first-line agent was well tolerated, and response was evident within 4 weeks of treatment initiation. Continuing research and clinical trials using cetuximab as a first-line therapy may help define its role in treating cutaneous SCC.

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