SKIN

SKINmages

Aggressive Squamous Cell Carcinoma in a Transplant Recipient

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CASE REPORT

A 76-year-old male with history of multiple cutaneous squamous cell carcinomas (SCCs), diabetes mellitus, hypothyroidism, rheumatoid arthritis, and idiopathic pulmonary fibrosis status post unilateral lung transplant five years prior presented to his primary care physician with a painful growth on his right neck (**Figure 1**). His immunosuppressive medications since transplant included prednisone, mycophenolate mofetil, and tacrolimus, along with prophylactic atovaquone and posaconazole. The lesion developed suddenly over the course of one to two weeks. The patient denied fevers, chills, dyspnea, or drainage from the lesion. On examination, a 2.5-centimeter irregular, tender, erythematous, hyperkeratotic and edematous nodule was noted. The patient was diagnosed with presumed cellulitis of the neck, prescribed trimethoprim-sulfamethoxazole, and referred to dermatology for further evaluation.

Three days later, the patient was seen by dermatology, where the nodule was biopsied. Histopathology revealed poorly differentiated SCC. Over the subsequent two weeks, the lesion rapidly progressed in size, accompanied by increasing surrounding erythema and the onset of severe neck pain. He was promptly admitted to the hospital, deemed a non-surgical candidate and began cetuximab infusions and radiation therapy. Despite aggressive treatment, the SCC

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Poorly differentiated SCC is an aggressive form of skin cancer, particularly prevalent among transplant recipients on immunosuppressive therapy. It is estimated that one in twenty solid organ transplant recipients will develop a highly morbid or fatal cutaneous cancer—representing a 65 to 250-fold increased risk.[1] Although our patient underwent full-body skin cancer screening

exams every six months, with recent exams notable for actinic keratoses that were treated during his visits, his fatal SCC diagnosis was made only two months after his last dermatology appointment.

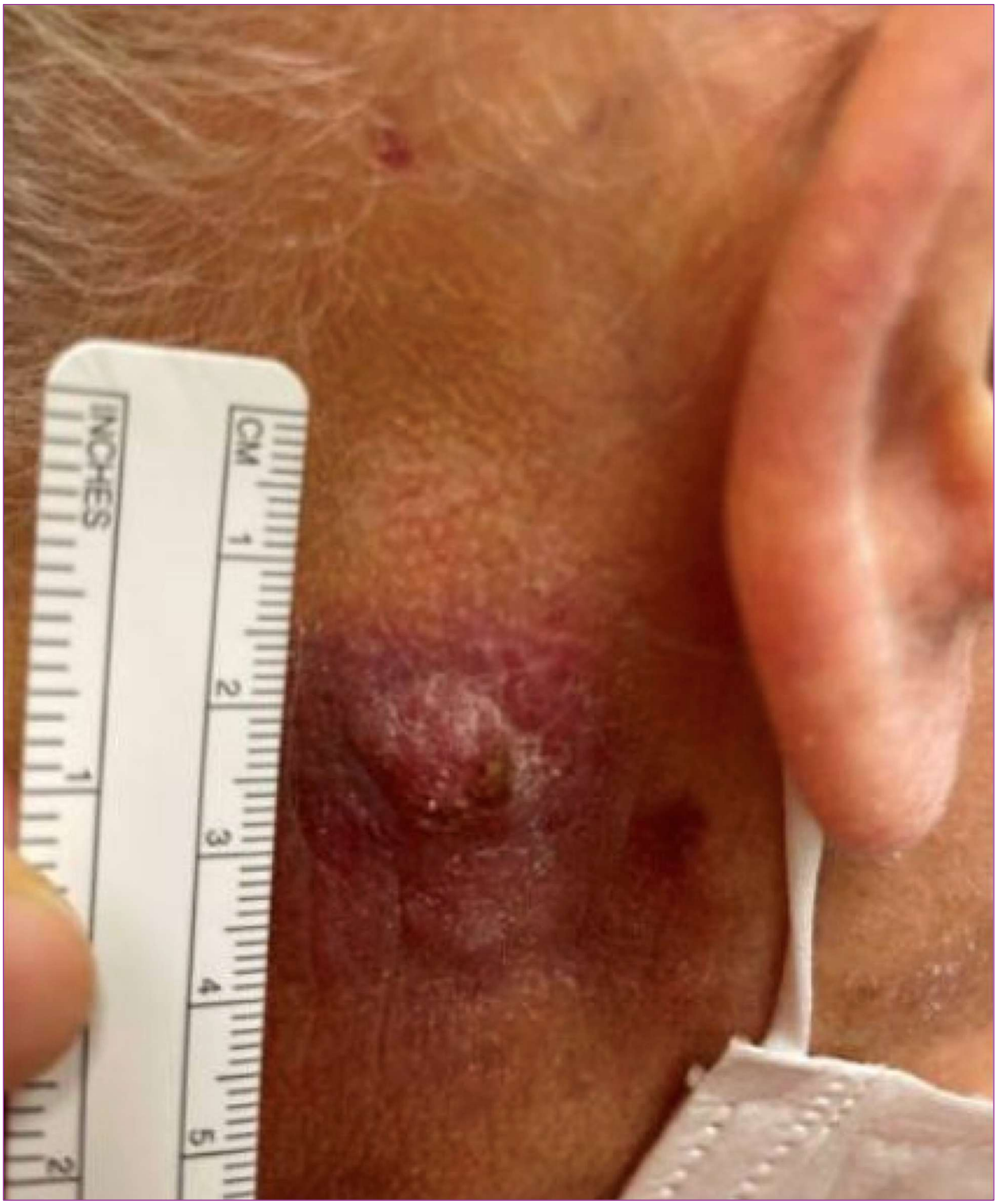

Figure 1. Clinical image (day 1 at primary care provider's office)

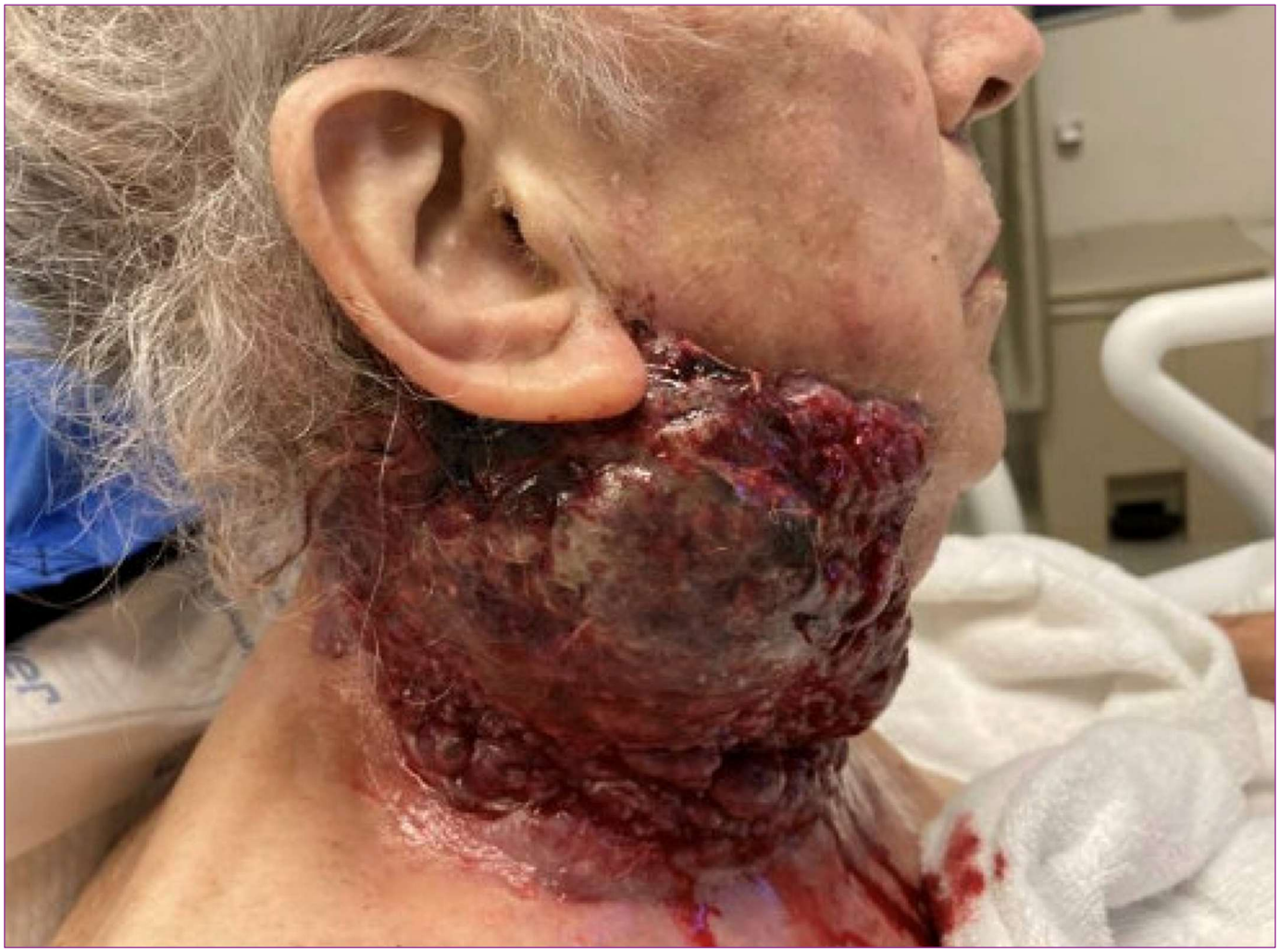

Figure 2. Clinical Image (day 28 of presentation, right side)

American Academy of Dermatology (AAD) guidelines recommend annual surveillance for solid organ transplant recipients without history of skin cancer and every three-to-six months for those with a history of non-melanoma skin cancer.[2] In transplant recipients, careful adjustment of immunosuppressive therapy, such as favoring mTOR inhibitors over calcineurin inhibitors, has been shown to significantly slow the development of SCCs.[3] Chemoprophylaxis with acitretin has demonstrated an 87% reduction in SCC incidence among solid organ transplant recipients in one retrospective cohort study.[4] Acitretin should be considered for transplant recipients who develop more than five SCCs within a year or present with at least one aggressive, rapidly developing SCC.[4] For unresectable SCCs, systemic therapies, including epidermal growth factor receptor (EGFR) inhibitors and programmed death-1 (PD-1) inhibitors, may be indicated.

This case underscores the critical need for heightened clinical suspicion of cutaneous malignancies in solid organ transplant recipients and the crucial role dermatologists play in the prompt evaluation and management of new skin lesions in this

population. While timely intervention and close coordination between specialists can often lead to improved patient outcomes, the aggressive potential of SCC in a transplant patient can unfortunately outpace timely intervention.

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