Case Report

Squamous cell carcinoma of the alveolus and buccal mucosa in a renal transplant recipient on long-term immunosuppression

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ABSTRACT

An increased risk of skin, head-neck (particularly lip) and lymphoreticular malignancies is well documented in renal transplant patients receiving long-term immunosuppressive therapy, but squamous cell carcinoma of the alveolus and buccal mucosa has not been reported previously in these patients.

Key words: Immunosuppressive therapy, post-transplant malignancy, squamous cell carcinoma

INTRODUCTION

We report a rare case of carcinoma of the alveolus and buccal mucosa arising in a 45 year-old male on long-term immunosuppression following successful cadaveric renal transplantation.

CASE REPORT

An apparently healthy, 45-year-old Asian man who was a non-smoker and had no history of alcohol or tobacco addiction presented with complaints of pain, swelling and loosening of tooth in his left lower jaw and trismus for past 4 months. He had undergone a successful cadaver renal transplant 13 years ago and had been maintained on cyclosporine 2.5 mg/day and prednisolone 7.5 mg/day since then. He had no family history of malignancy. A 3 × 5 cm exophytic lesion in the left lower alveolus and an ulcerative lesion in the adjacent left buccal mucosa were found on clinical examination, with no palpable cervical lymphadenopathy. Contrast enhanced computed tomography (CECT) scan of the face and neck revealed a 3.4 × 5.3 cm ill-defined soft tissue mass lesion in the left lower alveolus with associated destruction of left hemi-mandible and increased thickness of the adjacent left buccal mucosa [Figure 1]. His chest X-ray and routine hematological and biochemical tests did not show any abnormality. He underwent a biopsy of the lesion. Histopathologic examination of the biopsy specimen revealed squamous cell carcinoma [Figure 2]. The tumor cells were immunoreactive for cytokeratin 13 and 19 [Figure 3]; but negative for HMB-45 and S-100. He underwent wide local excision of the mass lesion along with left hemi-mandibulectomy and left modified radical neck dissection.

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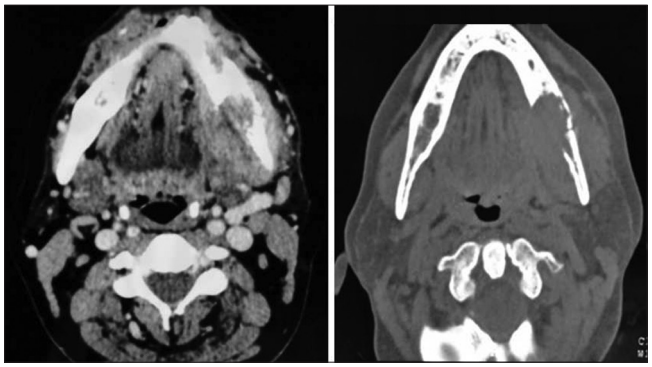

Figure 1: Axial contrast enhanced computed tomography image showing infiltrative soft tissue mass in the left lower alveolus. Corresponding CT bone window axial image showing destruction of the body of left hemi-mandible

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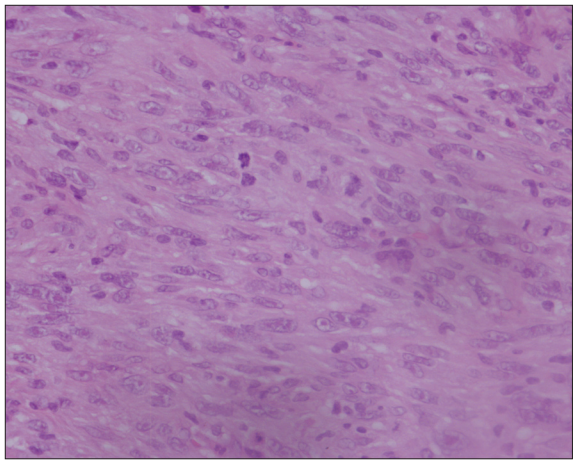

Figure 2: Photomicrograph showing squamous cell carcinoma cells with pleomorphic, hyperchromatic nuclei and illdefined cytoplasm (H and E, ×200)

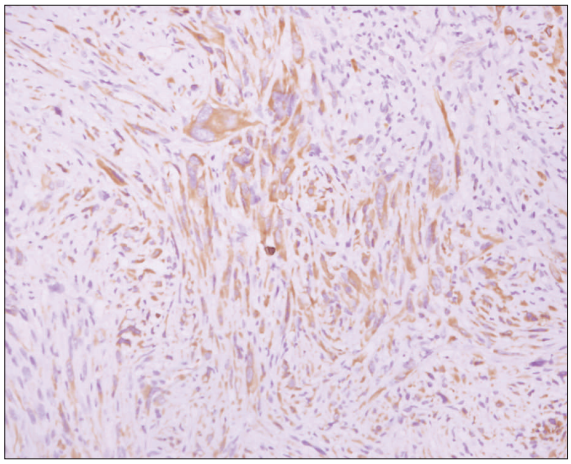

Figure 3: Immunohistochemically the tumor cells were positive for cytokeratin 13 (×20)

Then he received radical radiotherapy, 60 Gray/30 fraction to the primary disease and 44 Gray/22 fraction to the left hemineck. There was partial response to therapy. After that he was kept on palliative chemotherapy with methotrexate (50 mg weekly). After 9 cycles of chemotherapy there was local disease progression and ultimately he died 2 weeks later due to cardiac failure.

DISCUSSION

Recent improvements in immunosuppressive therapies have reduced the incidence of acute rejection and increased patient survival after renal transplantation. These agents may however, contribute to higher rates of mortality due to an increased risk of cardiovascular disease or malignancy. Malignant tumors develop in 15-20% of graft recipients after 10 years of chronic immunosuppression.[1,2]

The commonest tumors encountered in immunosuppressed transplant recipients are cancer of the skin (particularly non-melanoma skin cancers), lip, tumors of the lymphoreticular system and Kaposi's sarcoma.[3-6] However, the occurrence of some other cancers have also been reported, like cancer of the breast, tongue, colo-rectum, kidney, prostate etc. In spite of all the evidence for this increased incidence of malignant disease in transplant patients, it is difficult to prove a causal association in any individual. In view of the fact that our patient was a non-smoker, had no history of alcohol or tobacco addiction and was on immunosuppressive therapy for past 13 years, the development and behavior of the neoplasm in this case would seem to be related to immunosuppression.

The incidence of malignant disease in transplant recipients has been shown to increase steadily with the interval from transplantation. An incidence of cancer in transplant recipients surviving beyond one, five and nine years of 23%, 39% and 44% respectively has been reported.[7]

Apart from the increased incidence, increased biological aggressiveness is another specific point about malignant diseases in transplant patients. There are reports on the increased aggressiveness of squamous cell carcinoma of skin,[7] head-neck,[8] gastrointestinal tumors and lymphomas[9] in solid organ transplant recipients.

There are evidences to suggest a role for proliferation signal inhibitors (PSIs) in the management of post-transplantation malignancy, with reports of partial and complete resolution of primary and metastatic tumors after conversion from a calcineurin inhibitor (CNI) to a PSI in cases of non-melanoma skin cancer,[3] post-transplant lymphoproliferative disorder,[5] and Kaposi's sarcoma.[6] Though the role of mammalian target of rapamycin (mTOR) inhibitors has been firmly established for the treatment of post-transplant Kaposi's sarcoma but its role in the management of patients with other post-transplant malignancies is yet to be clarified.[10]

CONCLUSION

We report the first case of post-renal transplant de novo cancer of the alveolus and buccal mucosa in a 45 year-old Asian man, who was on long term immunosuppression. The possible role of immunosuppression on the development and on the outcome of treatment of post renal transplant malignancies is discussed.

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