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Sir,

Ocular surface squamous neoplasia in a renal transplant recipient on immunosuppressive therapy

There is an increased risk of *de novo* cancer in solid organ transplant recipients (OTR) on immunosuppression, skin cancer being the most common malignancy.[1] Squamous and basal cell carcinomas together account for over 90% of skin cancers in OTR, occurring 65–250 times as frequently as in the general population, in sun-damaged skin areas.[1] Ocular surface squamous neoplasia (OSSN) has been reported in the setting of liver transplant.[2] Herein we report one such case in a renal transplant recipient.

Case report

A 52-year-old man presented with a growth over the ocular surface in the right eye for 3 months. He had undergone a renal transplant 9 years ago for chronic renal failure and was on systemic immunosuppression with daily oral cyclosporine 175 mg, prednisolone 10 mg, and cyclophosphamide 50 mg. He had been earlier treated for cytomegalovirus retinitis in the left eye.

The visual acuity was 20/20 in the right eye and 20/30 in the left eye. Slit-lamp examination of the right eye showed two discrete fleshy pink conjunctival nodules crossing the limbus and involving the peripheral corneal epithelium. The lesions showed surface keratin and episcleral feeder vessels (Figure 1a). The larger nodule measured $5 \times 3\,mm^2$ in diameter and the smaller lesion measured 1 mm. Systemic examination showed papilloma over the forehead and malar skin (Figure 1b).

With a clinical diagnosis of OSSN of the right eye and facial papilloma, an excision of the limbal nodules with a 4 mm clear conjunctival margin with excision edge cryotherapy and alcohol-assisted epitheliectomy of the corneal component was performed. The facial lesions were also excised. Histopathological examination of the limbal nodules showed stratified squamous epithelium with dysplastic features, loss of surface maturation, and polarity. The cells were oval to polygonal with vesicular nucleus and large nucleoli. The basement membrane was intact, confirming the diagnosis of carcinoma-*in situ* (Figure 1c). The facial lesions exhibited finger-like processes lined by hyperplastic keratinized squamous cells, suggestive of squamous papilloma. Polymerase chain reaction (PCR) for human papilloma virus (HPV)

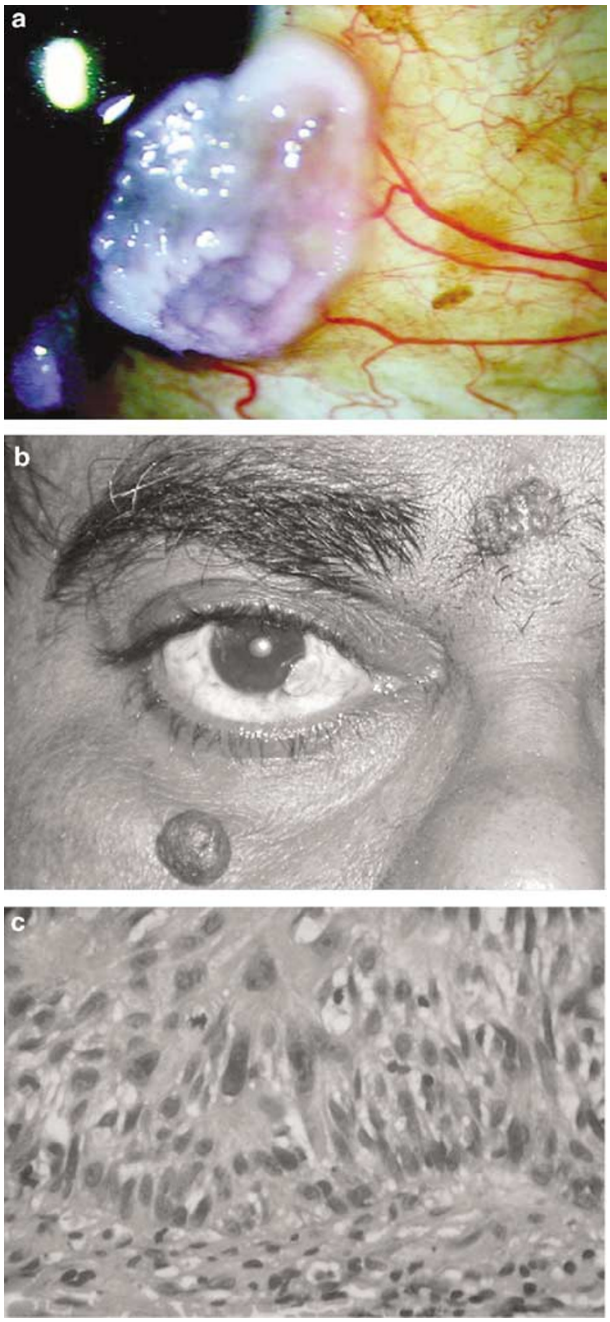

Figure 1 Ocular surface squamous neoplasia in a renal transplant recipient on chronic immunosuppressive therapy. (a) Slit-lamp photograph showing two discrete limbal nodules in the right eye, larger nodule measuring $5 \times 3\,mm^2$ in diameter, and the smaller lesion measuring 1 mm. (b) External photograph showing papilloma over the forehead and malar skin. (c) Histopathology of the conjunctival lesion shows oval to polygonal dysplastic cells with vesicular nuclei and loss of polarity with an intact basement membrane (haematoxylin and eosin, $\times 200$).

deoxyribonucleic acid (DNA) was positive from the conjunctival tumour and the facial papilloma.

The total lymphocyte count was 1192/mm^3, CD4 count was 182/mm^3 (15%), CD8 count was 603/mm^3 (50%), and CD4:CD8 ratio was 0.33. The dosage of immunosuppressive drugs was modulated over the next 6 months to bring CD4 counts within the normal range. The patient had no local tumour recurrence at 18-months follow-up.

Comment

The pathogenesis of skin cancer in OTR is multifactorial, involving immunosuppression, oncogenic virus infection, and ultraviolet radiation.[1,3] Immunosuppression is considered a major causal risk factor, especially for HPV-induced malignancies.[4] CD4 lymphocytopenia, being associated with increased incidences of malignancies, may be an important marker.[5] There is a well-recognized causal relationship between HPV and squamous neoplasia of the uterine cervix. A similar causal relationship between OSSN and HPV has been suspected.[6]

Postrenal transplantation, our patient was on long-term immunosuppression and had CD4 lymphocytopenia. He subsequently developed OSSN in the right eye and papilloma of the facial skin. Multifocality of OSSN as seen in our patient is a rare manifestation.[6] The OSSN as well as the skin papilloma were positive for HPV DNA by PCR, indicating that immunosuppression and CD4 lymphocytopenia may have predisposed to oncogenic HPV infection and subsequent development of OSSN. There is only one more case reported in the setting of immunosuppression following liver transplantation.[2] This patient, however, did not show evidence of HPV infection and manifested an aggressive tumour with orbital recurrence, intracranial extension, and tumour-related death.[2]

The association of OSSN and postorgan transplantation immunosuppression appears causal, being mediated by oncogenic HPV infection. Systematic periodic ophthalmic evaluation of OTR may help in early diagnosis of subtle OSSN.

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Sir,

The impact of HIV on sub-Saharan African eye departments

In Evans's discussion of the impact of HIV on the management of eye disease,[1] he omitted the commonest HIV-related disease presenting to eye departments in sub-Saharan Africa: squamous cell carcinoma (SCC) of the conjunctiva. HIV infection increases the risk of SCC 10-fold,[2] and an epidemic of conjunctival SCC has been coincident with the HIV epidemic. The number of patients with conjunctival SCC exceeds all other ocular manifestations of HIV/AIDS treated at the Lion's Sight First Eye Hospital in Blantyre, Malawi. A proportion of patients present with recurrences, or at such a late stage that removal of the eye is required. In addition to the morbidity of SCCs, the burden of