Blaschkoid Lichenoid Drug Eruption Due to Tenofovir

Sir,
A 42-year-old male presented with a 6-months history of mildly itchy lichenoid eruptions on the lateral side of the face, neck, upper arm, and upper back in blaschkoid pattern. The lesions were bilaterally symmetrical. The patient was a known case of HIV infection for the last 1 year and was on tenofovir, lamivudine, and efavirenz. After 6 months of initiating this regimen, he developed violaceous papular lesions over the face with gradual extension to the upper extremities, neck, and upper back in a linear pattern [Figure 1a-c]. Oral examination revealed hyperpigmentation of right and left buccal mucosa and hard palate. The patient denied a history of any other drug intake. The systemic examination was also normal. His absolute CD4 count at the time of presentation was 273 cells/mm³. Routine laboratory investigations such as complete blood count, liver function, and renal function tests were normal. Serology for hepatitis C virus and hepatitis B virus was negative. Skin biopsy obtained from the upper back revealed epidermal atrophy, basal vacuolar degeneration, and apoptotic keratinocytes. The upper dermis exhibits focal interface inflammation with mononuclear cells and many melanophages [Figure 2a and b].

The patient was referred to Antiretroviral therapy (ART) center and his drug regimen was modified by substituting tenofovir with abacavir. Cutaneous lesions were treated with topical steroids, emollients, and oral antihistamines. The lesions gradually regressed with residual hyperpigmentation. There was no recurrence of the lichenoid eruptions during the 6-months follow-up period. Based on gradual regression after dechallenge and absence of occurrence of the new lesion, diagnosis of tenofovir induced lichenoid drug eruption was made. Causality assessment based on the Naranjo adverse reaction scale revealed a score of 5, suggesting a “Probable” association of tenofovir to lichenoid drug eruption.

Discussion
Lichenoid drug eruptions are common cutaneous adverse effects usually associated with gold, antimalarials, antihypertensives, NSAIDs, and biological agents.[1] The exact etiology of a lichenoid drug eruption is unknown and possibly involves a T-cell mediated autoimmune damage to the basal keratinocytes. After stopping the drug, the altered keratinocytes are cleared and that leads to resolution of the rash.[2]

The time interval between the initiation of the offending drug and the appearance of the cutaneous lesions as well as time for resolution of lesions after cessation of the offending drug is relatively long compared to other drug reactions and varies from months to years. Histopathology shows lichenoid interface dermatitis and the infiltrate tends to be less dense, deeper, pleomorphic with eosinophils, and plasma cells in varying proportions. Focal parakeratosis and necrotic keratinocytes in the epidermis are additional histological features.[1] Cessation of the causative drug remains the mainstay of the treatment for lichenoid drug eruption. Mild cases may be managed by topical corticosteroids and systemic antihistamines while in severe cases, administration of systemic corticosteroids may be required.

Tenofovir is an antiretroviral drug belonging to the nucleotide reverse transcriptase inhibitor group. It is relatively safe drug and cutaneous adverse effects to tenofovir have rarely been reported. We could find only two published reports[3,4] on tenofovir induced lichenoid drug eruption in an extensive search of the English literature.
Figure 2: (a) Epidermal atrophy, basal vacuolar degeneration, and apoptotic keratinocytes. The upper dermis exhibits focal interface inflammation with mononuclear cells and many melanophages (H and E, ×10). (b) Epidermal atrophy, basal vacuolar degeneration, and apoptotic keratinocytes. The upper dermis exhibits focal interface inflammation with mononuclear cells and many melanophages (H and E, ×40).

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(PubMed, Google Scholar, Scopus, Medline, Embase, Index Medicus, Index Copernicus). In the first case report, lichenoid lesions were present on arms and scalp and the second case had a distribution of rash over trunk and extremities. To our knowledge, this represents the first case of blaschkoid lichenoid drug eruption caused by tenofovir.

Cutaneous adverse reactions are a common complication of antiretroviral therapy. The pattern of rash in our case was interesting and occurred in linear and blaschkoid pattern, hitherto unreported. Newer reactions and unusual patterns to the drugs previously unreported may occur in HIV infected patients and the clinician should be aware of this possibility.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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