Erythroderma secondary to lichen planus in a child

Sir,

A 12-year-old boy presented with generalized redness and scaling of the skin for 3 months and white patches on the tongue for 1 month. The eruption began as multiple, itchy, reddish, small papules over both legs which soon progressed to generalized involvement associated with fine scaling. There was no history of prior drug intake, fever, joint pains, photosensitivity, weight loss, anorexia or tuberculosis prior to the onset of the disease and the child was not atopic. Examination revealed generalized dusky blanchable erythema of the skin associated with grayish-white, fine semiadherent scales with some crusted erosions over the lower limbs [Figure 1a]. Thickening of the palms and soles was present and nails were normal. The oral cavity showed white ill-defined plaques over the tongue and hard palate along with a few ulcers [Figure 1b]. Laboratory investigation revealed a raised absolute eosinophil count. Fine needle aspiration cytology from an enlarged inguinal lymph node revealed reactive lymphadenitis and potassium hydroxide scraping from the mouth for oral candidiasis was positive. A wedge skin biopsy from the back revealed hyperkeratosis, parakeratosis, hypogranulosis and irregular acanthosis with moderate lymphoplasmacytic infiltrate in the superficial dermis [Figure 1c]. Serial biopsies done during the erythrodermic phase showed similar changes. Based on the clinico-pathological features, a provisional diagnosis of erythroderma secondary to psoriasis vulgaris with oral candidiasis was made. The boy was treated with methotrexate 7.5 mg weekly for 8 weeks and oral fluconazole. The skin lesions improved significantly (Psoriasis Area and Severity Index score declined from 46.2 to 6.4) but the oral lesions did not improve despite repeated courses of fluconazole.

Interestingly, as the child began to improve, a few violaceus flat-topped papules were noticed on the volar aspect of wrists [Figure 2a], followed by similar lesions over lower limbs and on lips [Figure 2b]. By this time, a lacy pattern was also noticed over the buccal mucosa with a few erosions over the hard palate. Skin biopsy from a papule showed compact orthokeratosis, wedge-shaped hypergranulosis, irregular acanthosis, vacuolar degeneration of basal layer, colloid bodies in the basal layer and upper dermis and a band-like dermal lymphohistocytic infiltrate consistent with lichen planus [Figure 2c]. Subsequently, the shaft of penis also developed violaceous papules [Figure 2d]. Oral mucosal biopsy showed acute on chronic ulceration with granulation tissue and fibrosis underneath. Non-ulcerated areas showed focal saw-toothing and lympho-plasmacytic infiltrate. The diagnosis was then revised to erythroderma secondary to lichen planus. As oral lesions were not responding to methotrexate, he was administered

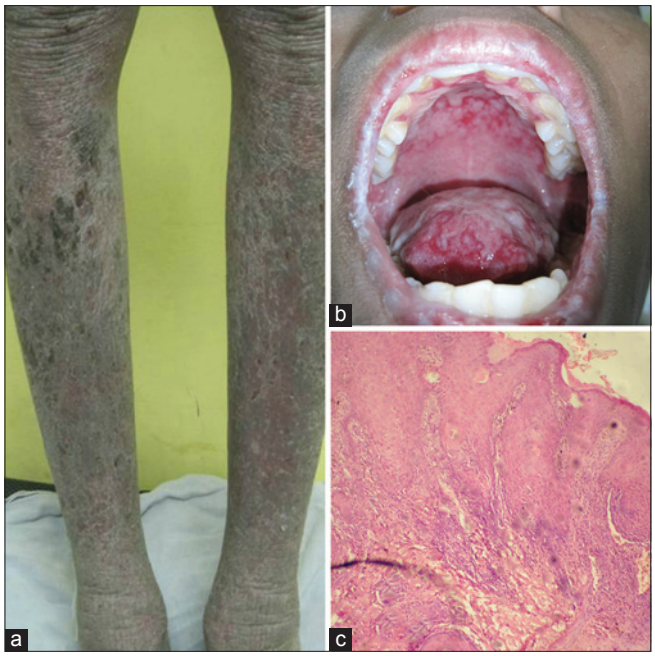

Figure 1: (a) Diffuse erythema associated with grayish-white semi-adherent scales with dark brown crusted erosions on lower limbs, (b) multiple discrete to coalescent erosions over tongue and hard palate surrounded by whitish plaques, (c) hyperkeratosis, parakeratosis, hypogranulosis and irregular acanthosis along with lymphoplasmacytic infiltrate in upper dermis (H and E, ×100)

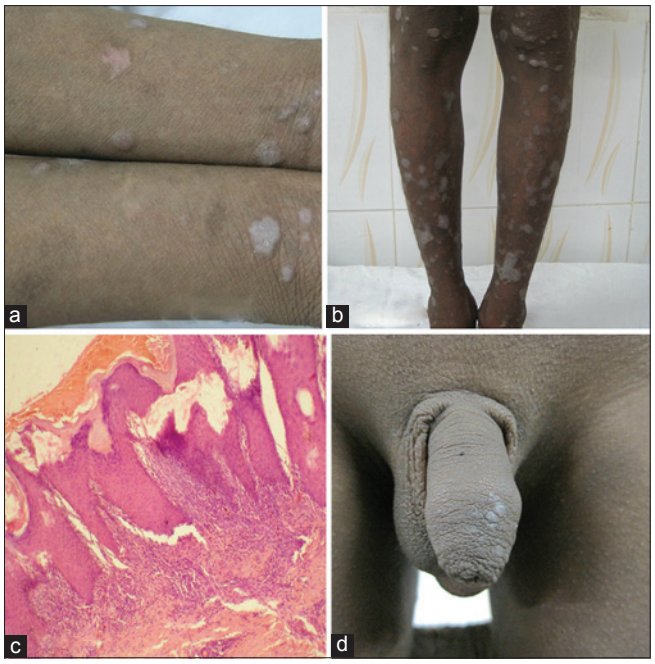

Figure 2: (a) Multiple discrete flat topped violaceous papules over volar aspect of both wrists, (b) similar lesions over both lower limbs, (c) compact orthokeratosis, wedge-shaped hypergranulosis, irregular acanthosis, vacuolar degeneration of basal layer, colloid bodies in basal layer and upper dermis and band-like dermal lymphohistocytic infiltrate (H and E, ×100), (d) violaceous papules over genitalia

oral prednisolone, 1 mg/kg and topical triamcinolone paste. Oral steroids were tapered gradually according to the clinical response and dapsone, 50 mg was added as maintenance therapy while topical steroid application was continued for oral lesions along with intermittent courses of fluconazole. The child improved markedly with resolution of skin lesions and oral complaints over the next 3 months.

Erythroderma is a reaction pattern characterized by generalized erythema with desquamation affecting more than 90% of the body surface. It is relatively uncommon in children compared to adults. Common causes of erythroderma in childhood are drug reactions (29%), genodermatoses, psoriasis and staphylococcal scalded skin syndrome (18% each), atopic dermatitis (12%) and seborrheic dermatitis (5%).[1]

Lichen planus is rare in childhood with less than 2–3% of all cases being seen in patients under 20 years of age.[2,3] As in adults, both genders are equally affected. Mucosal lichen planus in children is uncommon being reported in 13.8-30% of childhood lichen planus.[4-6]

The clinical features of erythroderma are often non-specific and the approach to patients depends on a careful history. The diagnosis is more difficult in a patient without a prior history of dermatologic diseases who denies having recently taken any medication, as in our case. In such cases, it is important to perform a skin biopsy. Clinicopathological correlation in erythroderma is usually poor because often the specific cutaneous changes of a dermatosis or a drug reaction are obscured by the non-specific changes induced by erythroderma. Frequently, the histological features are those of chronic dermatitis or psoriasiform dermatitis.

Table 1: Cases of erythroderma due to lichen planus published to date

Title	Findings
Lichen planus presenting as erythroderma[7]	Skin lesions with oral and genital involvement. Nails not involved
Erythrodermic lichen planus[8]	Skin lesions with no mucosal or nail involvement
Erythrodermic lichen planus pemphigoides[9]	Skin lesions with oral and vulval involvement
Erythroderma in adults: A report of 80 cases[10]	Out of 80 cases of erythroderma, only 1 case was secondary to lichen planus

We could find only 4 prior case reports of erythroderma secondary to lichen planus and all were in adult patients [Table 1].

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Conflicts of interest

There are no conflicts of interest.

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