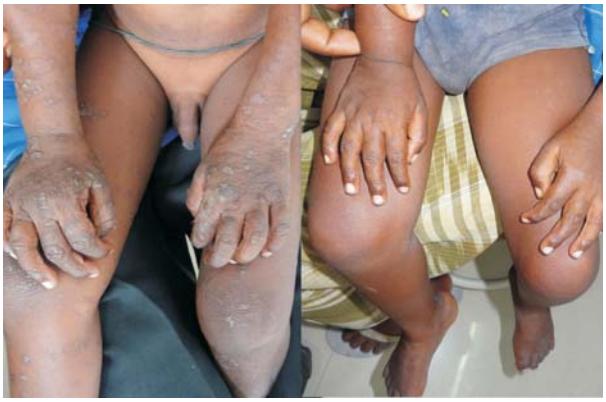
Hyperkeratotic Scaly Lesions

A 4-year-old boy presented with mildly itchy hyperkeratotic scaly lesions on pressure points like knees, elbows, buttocks and ankles in a bilateral symmetrical manner for two months (***Fig.* 1**). Parents also complained of recent onset lethargy and diarrhea for three weeks. Child and parents both were known to be HIV-seropositive and were on anti-retroviral therapy. Rest of the mucocutaneous examination was unremarkable, except for oral candidiasis. Tinea incognito, atopic dermatitis and acquired zinc deficiency were considered as differential diagnoses. In atopic dermatitis, the lesions are itchy, predominantly over flexors (on extensors in infants) and are accompanied by other features *e.g.* hyperlinearity of palms, Dannie Morgan folds, generalized xerosis, follicular papules, and history of atopy. These findings were absent in our patient. HIV status of baby, asymptomatic psoriasiform scaly plaques over pressure/trauma prone areas, absence of features of inflammation and concurrent diarrhea were clinical clues for a diagnosis of acquired hypozincemia in a HIV patient. KOH mount from the scaly lesions were negative for fungus and histopathology revealed psoriasiform acanthosis, confluent parakeratosis and mild neutrophilic infiltration. The epidermis was notable for pallor of upper layers and few dyskeratotic keratinocytes. These findings were consistent with the diagnosis of acquired hypozincemia. Serum zinc level could not be estimated, but alkaline phosphatase level was marginally low (82 IU/L). He was treated with oral zinc at a dose of 2 mg/kg/day and emollient (and clotrimazole mouth paint for oral candidiasis). On follow up visit after two weeks, the cutaneous lesions and diarrhea were completely improved (***Fig.* 1**). The parents were counseled about including zinc-rich food items in diet.

The clinical manifestations of acquired zinc deficiency are variable and depend on degree of hypozincemia. The patients with significant hypozincemia present with periorificial erosive dermatitis, mimicking acrodermatitis enteropathica (AE). However, patients with mild hypozincemia present with less dramatic, less characteristic psoriasiform lesions which may be missed by treating physicians. In mild hypozincemia, lesions are characterized by "scald like" erythema and lack of inflammation. The lesions are typically seen on areas subject to repeated pressure and trauma, such as elbows, knees, knuckles, ankles, and sacral area. The cutaneous lesions may be psoriasiform plaques (in appearance and distribution), annular plaques with brown black crusts at advancing margins, crusted plaques, or pigmented lichenoid lesions. Vesicobullae, pustules, and erosions are occasional findings. There is decreased hair and nail growth. The diagnosis of mild hypozincemia requires a high index of suspicion. The determination of a low plasma zinc level is diagnostic (normal 70-250 μg/dL), but may not be helpful in all cases as it suffers from many limitations. Serum alkaline phosphatase and histopathology may aid in diagnosis. The clinical response to zinc supplementation (1-2 mg/kg/day) remains the gold standard of diagnosis. Typically, there is rapid improvement of diarrhea within 24 hours and skin lesions heal within 1 to 2 weeks of zinc therapy without additional topical therapy.



(*a*) (*b*)

FIG. 1 *(a) Dry hyperkeratotic scaly lesions on pressure points (left). Note absence of crural region (characteristically involved in Acrodermatitis enteropathica), (b) complete clearance of lesions within two weeks.*

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