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Case Report

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An Unorthodox Case of Nutritional Dermatosis

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ABSTRACT

Since its first discovery in an Iranian male in 1961, zinc deficiency in humans is known to be an important malnutrition problem world-wide. Due to the multitude of basic biochemical functions of zinc in the cells of human body, there is a broad range of physiological signs of zinc deficiency. India has made important strides in reducing nutritional deficiencies over the past several decades. However, for micronutrients such as zinc, there is persistently worsening trend. Acrodermatitis enteropathica is a rare inherited form of zinc malabsorption and typically becomes symptomatic 4 to 6 weeks after an infant has stopped breastfeeding.

We, hereby, present the case of a patient who presented with clinical features of acrodermatitis enteropathica for the first time at 32 years of age caused by acquired zinc deficiency.

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Introduction

Acrodermatitis enteropathica (AE) is a rare disorder associated with zinc deficiency that presents with classic triad of acral and periorificial dermatitis, diarrhoea and alopecia. Inherited form is more common and typically seen in infants. However, in last decade, there is an increased number of reports on acquired AE affecting adults. We, here, report a case of adult AE in which initial presenting symptoms and signs were so diverse that early and accurate diagnosis became arduous [1-4].

Case Report

A 32 year-old Indian male patient presented with chief complaints of papulo pustular eruption on face and trunk since 3 months. His symptoms started as multiple, discrete, nontender, pruritic erythematous papules initially over face followed by appearance of similar lesions over trunk. The papules evolved into pustules in 4-5 days. (Figure 1a-d).Also, patient gave history suggestive of photosensitivity over lesions. He complained of fissures over palms and soles since 10 days. Cutaneous examination revealed erythematous, macerated crusted erosions over face; multiple papules and pustules over trunk; desquamation of palms and soles; paronychia, periorbital edema and conjunctival congestion. Skin biopsy with immunofluorescence revealed mild spongiotic dermatitis and papillary dermal edema without immunoreactants. The patient was treated as eczematous dermatitis and discharged with 25 mg of oral prednisolone, combination of topical corticosteroid and antibiotic; advised to come after 4 weeks. Albeit, he returned after just 2 weeks with complains of 3-4 daily episodes of watery, non-bloody loose stools for the past 7 days with 3 kgs of unintentional weight loss, excessive loss of scalp hair and hyperpigmented lichenified plaques over elbows and knees (Figure 1e-g).

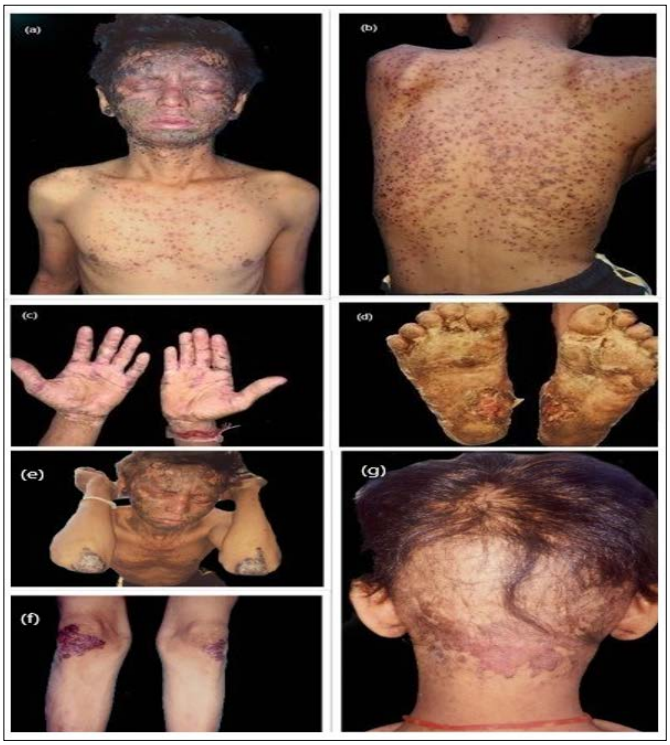

Figure 1: Presenting complaints (a) Crusted erosions over face (b) Multiple erythematous papules and pustules over trunk (c, d) Palmoplantar keratoderma and Presenting complaints on follow up after 4 weeks (e, f) Hyperpigmented lichenified plaques over elbows and knees (g) Diffuse non cicatricial alopecia of the scalp

The culmination of triad (acral dermatitis, diarrhoea and alopecia) made us close in on AE. On further probe, patient gave history of dysguesia, anorexia, primary infertility. Zinc levels were ordered which was low viz,30 µg/dL (normal:60-130 µg/dL). Serum alkaline phosphatase, a zinc dependent enzyme, was also to the lower limit of normal (40U/L normal= 40-150 U/L). Besides, patient was investigated for other micronutrient deficiency which revealed none.

Thence, the patient was diagnosed as acquired AE, started on 150 mg thrice daily of oral elemental zinc for 30 days; he showed dramatic clinical improvement within 2 weeks (Figure 2).

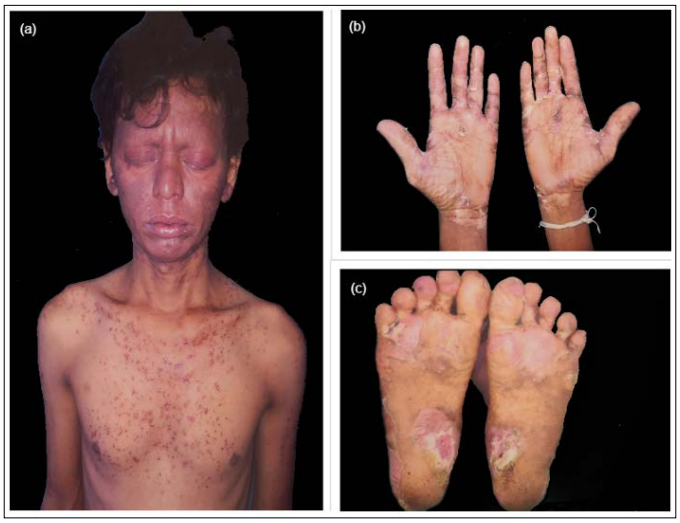

Figure 2: (a,b,c) Clinical improvement 2 weeks after treatment with oral zinc

The etiology of AE is pinned down to inadequate zinc intake due to vegetarian diet and chronic alcohol consumption.

Discussion

Zinc is an essential mineral that plays crucial role in metabolism, development, tissue repair, cell proliferation [5]. Typical dermatologic findings of zinc deficiency are sharply demarcated, eczematous patches on periorificial area, which can become vesicular, pustular or desquamative. Extensor aspects of limbs and acral areas may also be involved. Diffuse hair loss affects scalp, eyebrows, eyelashes. Nails are soft with ridging, dystrophy and paronychia. Diagnosis is made by clinical findings subsequently responsive to zinc supplementation supported by findings of low serum zinc concentration and/or suggestive histological findings [5].

In our case, diagnosis of AE was attained when the patient subsequently presented with the triad, delaying the diagnosis. It is possible that AE in adults is underdiagnosed because of an uncharacteristic symptomatology. Hence it is imperative not to limit cutaneous manifestations of AE to acral and periorificial dermatitis but to extend the horizon so as to prevent mismanagement of this otherwise easily treatable condition.

Our case emphasizes the fact that photosensitive erythematous papulopustular eruption on face and trunk to be considered as initial dermatological manifestation of AE.

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Conflicts of Interest

No relevant Conflicts of interest

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