

# Acrodermatitis: A Dermatological Impact of Long-Term Proton Pump Inhibitor Use

**Sahoo DP**

Department of General Medicine, All India Institute of Medical Sciences (AIIMS), Guwahati, India

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\***Corresponding author:** Debashis Priyadarshan Sahoo, Senior resident, Department of General Medicine, All India Institute of Medical Sciences (AIIMS) Guwahati, Assam, Tel: +91-760-600-9661 India, 781101

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## 1. CLINICAL IMAGE

A young male student in his twenties presented with dry, scaly, reddish-brown rashes accompanied by crusting around his mouth and on both lower limbs for three weeks. Initially appearing around his mouth and with features of cheilitis, the rash spread to the perioral region and lower limbs below knees. **Figure 1 and Figure 2** depict the progression. He had no other complaints like fever, diarrhoea, vomiting, pain abdomen, hematochezia. He had no prior comorbidities. He was a non-alcoholic and non-smoker. He had been taking Oral tablet of Omeprazole 20 mg daily before breakfast for a year. Serum zinc level was 6 mcg/mL, below the reference range of 12 mcg/mL - 18 mcg/mL. Omeprazole was stopped, and Zinc Acetate 50 mg tablets were initiated. Upper and Lower Gastrointestinal endoscopy along with mucosal biopsies were within normal limit. Symptoms improved over two weeks, but Zinc was continued for a total duration of four weeks. There was resolution of dermatitis at end of the treatment and also there was no skin lesions during follow up at 6 weeks and 8 weeks.

Zinc is a crucial micronutrient with diverse roles in the body, including immune function, wound healing, taste and smell perception, skin health, antioxidants, hormone regulation, neurotransmitters, and skeletal integrity [1]. Zinc absorption occurs in the small intestine *via* zinc transporters regulated by metallothionein. Factors like age, gut health, genetics, and medications can affect absorption [2]. Proton pump inhibitors hinder zinc absorption, leading to symptoms of deficiency like hair loss, reduced appetite, visual issues, mood changes, and dermatological manifestations [3].

Proton pump inhibitors, including Omeprazole, are commonly prescribed for acid-related conditions but can disrupt zinc homeostasis, potentially causing dermatological issues like acrodermatitis. Recognizing and addressing drug-induced zinc deficiency is crucial in managing associated skin conditions. This case highlights the significance of considering medication-induced nutrient deficiencies in dermatological presentations, emphasizing the need for comprehensive patient evaluation and tailored treatment approaches.



Figure 1

**Figure 1:** Reddish, inflamed patches, papules, pustules, plaques with dry, scaly skin and areas of hyperpigmentation and hypopigmentation in perioral and chin area.



Figure 2

**Figure 2:** Demonstrates the involvement of the lower legs with extensive areas of inflammation, marked by patches and scaling.

**2. KEYWORDS:** Acrodermatitis; Zinc; Proton pump Inhibitor; Omeprazole

### 3. CONCLUSION

- The dermatological impact of zinc deficiency induced by prolonged Omeprazole use, emphasizing the importance of monitoring micronutrient levels in patients on long-term medication therapy.
- Timely recognition, cessation of offending agents, and appropriate supplementation are *vital* in managing drug-induced nutrient deficiencies and associated skin manifestations.
- Healthcare providers should maintain a high clinical suspicion for medication-related nutrient deficiencies to optimize patient care and outcomes in dermatological conditions.

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