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RESEARCH ARTICLE

A CASE OF PEDIATRIC NUTRITIONAL DERMATITIS WITH SECONDARY MALNUTRITION: CLINICAL PRESENTATION AND MANAGEMENT IN A RESOURCE-LIMITED SETTING

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ABSTRACT

Background: Pediatric nutritional dermatitis is often underdiagnosed in resource-limited settings, where poor dietary intake and parasitic infections are prevalent. *Case Presentation:* We report a 7-year-old female child with generalized dry rashes, pruritus, and poor weight gain. Examination revealed scaly eczematous lesions and undernutrition. ***Management:*** Treatment included a short steroid course, antihistamines, multivitamins, an appetite stimulant, moisturizers, and deworming. ***Conclusion:*** Addressing nutritional and parasitic causes in children with dermatological symptoms yields significant clinical improvement. Integration of dermatology, nutrition, and public health is crucial for outcome optimization.

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INTRODUCTION

Dermatological manifestations in pediatric patients often serve as the earliest visible signs of underlying systemic, metabolic, or nutritional disorders (1). In particular, eczematous eruptions in children—characterized by dry, itchy, and inflamed skin—can be more than just primary skin conditions; they may reflect broader systemic challenges such as micronutrient deficiencies, chronic malnutrition, or immune dysregulation (2,3). When such skin findings are accompanied by signs of growth faltering, poor appetite, and delayed developmental milestones, clinicians must broaden their diagnostic lens beyond dermatological causes to include nutritional, gastrointestinal, and metabolic evaluations (4). In resource-limited settings, these seemingly benign skin conditions are frequently underappreciated, yet they offer a crucial diagnostic window into the child's overall health (5). Nutritional dermatoses such as kwashiorkor-related skin changes, zinc deficiency (acrodermatitis enteropathica), and essential fatty acid deficiency can mimic or exacerbate eczematous presentations (6,7). Moreover, chronic parasitic infestations and poor hygiene can worsen both nutritional status and dermatological symptoms, creating a vicious cycle of skin breakdown, infection risk, and further nutritional compromise (8). This case underscores the importance of adopting a multidisciplinary approach in outpatient settings—where pediatricians, dermatologists, and nutritionists collaboratively assess the child's dietary history, growth charts, and systemic signs (9). Timely interventions such as targeted nutritional supplementation, antiparasitic treatment, skin care regimens, and caregiver education can not only reverse dermatological symptoms but also restore healthy growth and prevent long-term complications (10). The skin, as the largest and most visible organ, must be recognized as a diagnostic canvas that reflects deeper systemic imbalances in pediatric care (11).

Case Presentation

Patient Information

- **Name:** Neetu
- **Age:** 7 years
- **Gender:** Female
- **Weight:** 17.0 kg
- **Date of Presentation:** 22-05-2025

Chief Complaints

- Generalized dry rashes over the body
- Persistent itching
- Poor weight gain

History of Present Illness: The patient's mother reported persistent dry, scaly rashes with itching for the past few months. Rashes were more prominent on the limbs and trunk. No fever, joint pain, or systemic illness was reported. Additionally, the child had poor appetite and suboptimal weight gain.

Past Medical History

- No known allergies or asthma
- No similar family history

Clinical Examination: The child appeared thin, with visible eczematous plaques and dryness over the extremities and face (See Figure 1). Anthropometric assessment confirmed undernutrition for age.

Clinical image showing dry eczematous dermatitis and visible undernutrition in a 7-year-old female.

Provisional Diagnosis

- Dry Eczematous Dermatitis (likely nutritional or atopic)
- Secondary Malnutrition (Suspected)
- Rule out: Parasitic Infestation

Treatment Summary

- **Tablet Prednisolone 10 mg**, BD × 3 days – Anti-inflammatory
- **Tablet Levocetirizine 5 mg**, BD – For itching
- **Calasoft Lotion**, local application – Moisturizing agent
- **Syrup Big Grow**, 5 ml BD – Nutritional support
- **Tabl*et al*bendazole**, single dose – Deworming
- **Additional Dispensed Medicines**
- *Aptirose-JR Syrup* – Cyproheptadine + multivitamins + zinc
- *Pacimol 650 mg* – Antipyretic and analgesic
- *LYCOVIK Capsule* – Lycopene, antioxidants, and multivitamins

DISCUSSION

This case represents a common but often overlooked presentation of pediatric dermatitis compounded by nutritional insufficiency and possible parasitic burden (12). Skin findings, especially in young children, are frequently misattributed to isolated dermatological conditions without addressing the underlying systemic contributors. According to WHO guidelines, undernutrition and helminthic infestations remain major public health concerns in developing regions, particularly among children in low-resource settings (13). Chronic parasitic infections not only impair nutrient absorption but also cause systemic inflammation, aggravating skin and gut manifestations of malnutrition (14). In the present case, short-course corticosteroids were used to control the acute inflammatory response of the eczematous dermatitis. Topical or systemic corticosteroids are known to reduce epidermal inflammation, itching, and erythema in pediatric dermatitis, especially when nutritional status is concurrently addressed (15). Levocetirizine, a second-generation antihistamine, was effective in alleviating pruritus without causing sedation or impairing cognitive function (16). Emollient therapy, including the application of agents like Calasoft (containing calamine and aloe vera), played a vital role in restoring epidermal barrier function, rehydrating the skin, and preventing secondary bacterial infections (17). From a nutritional standpoint, appetite stimulants and multivitamin supplementation—particularly vitamins A, D, E, and zinc—were essential to correcting the deficiencies and promoting cutaneous healing (18). The inclusion of albendazole was justified based on WHO and national child health guidelines that recommend presumptive deworming in pediatric patients with signs of undernutrition or recurrent skin conditions (19). Deworming not only helps in reducing parasitic load but also improves appetite, nutrient uptake, and general well-being in affected children (20). This integrated approach, combining symptomatic dermatologic treatment with nutritional rehabilitation and antiparasitic therapy, exemplifies the importance of syndromic management in pediatric outpatient settings, particularly in endemic and underserved areas (21).

CONCLUSION

Pediatric cases of nutritional dermatitis require a multidisciplinary, community-oriented approach. Early recognition and appropriate pharmacological and nutritional interventions can significantly improve outcomes in children with poor growth and skin conditions.

Declarations

Ethics Approval and Consent to Participate: Informed consent for examination and documentation was obtained from the guardian.

Consent for Publication: Consent was obtained for publication of the case and clinical image.

Availability of Data and Materials: Not applicable.

Competing Interests: None declared.

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