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(CASE REPORT)

Crusted Scabies Mimicking Atopic Dermatitis in an Infant: A Case Report

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Abstract

Crusted scabies is a rare, severe, and highly contagious form of scabies, typically affecting immunocompromised patients. We report an uncommon case in a 7-month-old immunocompetent infant, initially misdiagnosed as atopic dermatitis, leading to prolonged topical corticosteroid use. The patient presented with widespread pruritic erythematous lesions and thick yellowish crusts, in a context of nocturnal pruritus among several family members, and numerous burrows with the characteristic "delta-wing jet" sign upon dermoscopic examination, confirming the diagnosis. Management combined topical benzyl benzoate and weekly permethrin, along with oral ivermectin for household contacts and repeated environmental disinfection, leading to complete resolution.

This case illustrates the risk of misdiagnosis in infants and the role of corticosteroids in precipitating severe forms. Early dermoscopic recognition and comprehensive management are essential to avoid complications and prevent transmission.

Keywords: Scabies; Infant; Hyperkeratosis; Topical Corticosteroids; Case Report

1. Introduction

Scabies is a widespread parasitic skin infestation caused by Sarcoptic scabiei [1]. In infants, clinical manifestations are often atypical, leading to misdiagnosis [2]. Crusted scabies (Norwegian scabies) is a rare, severe, and highly contagious variant characterized by massive mite proliferation and hyperkeratosis, typically seen in immunocompromised individuals [3]. We report a case in an immunocompetent infant following initial misdiagnosis and management as atopic dermatitis with prolonged corticosteroid therapy.

2. Case Presentation

A 7-month-old male infant presented with a 5-month history of diffuse erythematous and pruritic skin lesions, initially misdiagnosed as atopic dermatitis. He had received multiple courses of topical corticosteroids without clinical improvement. Over time, pruritus worsened and thick crusted plaques developed across the body.

Family history revealed nocturnal pruritus affecting multiple household members. Clinical examination showed an irritable and fussy infant with a widespread papulovesicular eruption involving the face, scalp, trunk, limbs, and palmoplantar regions, along with adherent yellowish scales and crusts, predominantly on the trunk, arms, and feet (Fig. 1).

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Figure 1 Generalized papulo-vesicular and hyperkeratotic eruption in an infant with crusted scabies, involving the face, trunk, limbs, and acral areas

Dermoscopic examination revealed numerous burrows with the characteristic “delta-wing jet” sign, confirming crusted scabies (Fig. 2).

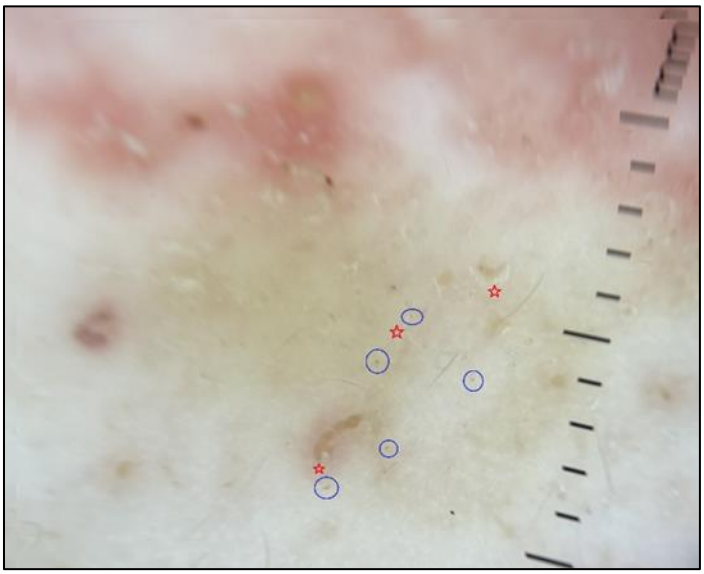

Figure 2 Dermoscopy showing multiple scabetic burrows (red stars) and delta-wing jet signs (blue circles), consistent with crusted scabies

A work-up for underlying immunodeficiency, including complete blood count and HIV serology, showed no abnormalities.

Treatment consisted of a 3-day course of topical benzyl benzoate, followed by 6 weekly applications of permethrin 5% cream. Household contacts were managed with 3 cycles of benzyl benzoate and 2 courses of oral ivermectin (days 1 and 8), spaced 1 month apart, along with repeated disinfection of bedding and clothing. At the 2-month follow-up, examination showed complete resolution of all lesions and absence of residual pruritus in both the infant and his family members.

3. Discussion

This case highlights the diagnostic challenges of scabies in infancy, where clinical features and lesion distribution—particularly on the face, scalp, and acral areas—can be misleading [1]. In this age group, misdiagnosis and prolonged use of topical corticosteroids remain the most prevalent immunosuppressive risk factors identified in otherwise healthy patients, promoting local immune suppression and uncontrolled mite proliferation, ultimately leading to the development of the crusted form [2,4]. In the presence of widespread hyperkeratotic lesions and a history of family-wide nocturnal pruritus, clinicians should strongly consider crusted scabies, even when initial presentations resemble atopic dermatitis, especially in cases with poor response to corticosteroids [5]. Dermoscopy is a valuable, rapid, and non-invasive tool that can confirm the diagnosis by revealing characteristic scabetic burrows and the delta-wing jet sign [1]. Management of crusted scabies is urgent and requires a comprehensive approach, combining topical agents—such as permethrin 5% cream and benzyl benzoate—with systemic therapy for both the patient and close contacts, along with strict hygiene and environmental decontamination. While oral ivermectin is a cornerstone in treating severe forms, its limited use to patients weighing 15 kg or more poses a challenge in the management of younger infants [1]. Prompt recognition and timely intervention are essential to prevent complications and to halt transmission of this severe and highly contagious variant [6].

4. Conclusion

Crusted scabies, though rare in immunocompetent infants, can emerge when diagnosis is delayed and corticosteroids are misused. Clinicians should remain vigilant in the face of atypical, treatment-resistant dermatoses in infancy. Early dermoscopic evaluation and appropriate management are essential to avoid severe progression and limit transmission.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subjects by any of the authors.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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