

# Scabies masquerading as chronic bullous disease of childhood

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**Abstract** Scabies is a common parasitic infestation caused by the *Sarcoptes scabiei* mite, typically presenting with pruritic papules and burrows. Chronic Bullous Disease of Childhood (CBDC) is an autoimmune blistering disease characterized by tense bullae and erosions. Here, we present a case of scabies masquerading as CBDC in an 8-year-old child. The misdiagnosis led to delayed appropriate management and highlights the significance of considering scabies in differential diagnosis of blistering dermatoses, particularly in endemic regions.

**Key words**

Scabies; Chronic bullous disease of childhood; *Sarcoptes scabiei*; Blistering disorders; Misdiagnosis.

## Introduction

Chronic Bullous Disease of Childhood (CBDC), also known as linear IgA bullous dermatosis (LABD), is a rare autoimmune blistering disorder predominantly affecting pediatric populations. It is characterized by the linear deposition of IgA along the basement membrane zone, leading to subepidermal blister formation.<sup>1</sup> Scabies, on the other hand, is a transmissible skin infestation in which *Sarcoptes scabiei* mite is the culprit. While scabies classically presents with pruritic papules and burrows, its atypical presentations can mimic other dermatoses, leading to misdiagnosis.<sup>2,3</sup> Here, we report a case of scabies mimicking CBDC in a pediatric patient.

## Case report

An 8-year-old previously healthy boy presented to our dermatology clinic with a 6-months history of recurrent tense blisters and erosions on trunk and extremities. It started from inguinal area and was associated with severe itching especially worse at night. Within a week, it spread to involve whole body particularly web spaces of hands. After almost 48 hours of eruption, the bullae ruptured leaving behind crusted erythematous plaques. There were no mucosal lesions or lymphadenopathy noted. On examination, the patient had multiple tense bullae, some of which were intact and others had ruptured, leaving behind erosions and crust formation (**Figures 1-3**). Nikolsky's sign was negative.

His baseline laboratory investigations were normal. Tzank smear was performed which was negative for acantholytic cells. Skin biopsy for histopathology was performed on intact blister. Histopathological evaluation of the slide revealed a subepidermal split with mixed inflammatory infiltrate of neutrophils,

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**Figures 1-3** Tense blisters and crusted erosions on trunk of an 8-year-old boy.

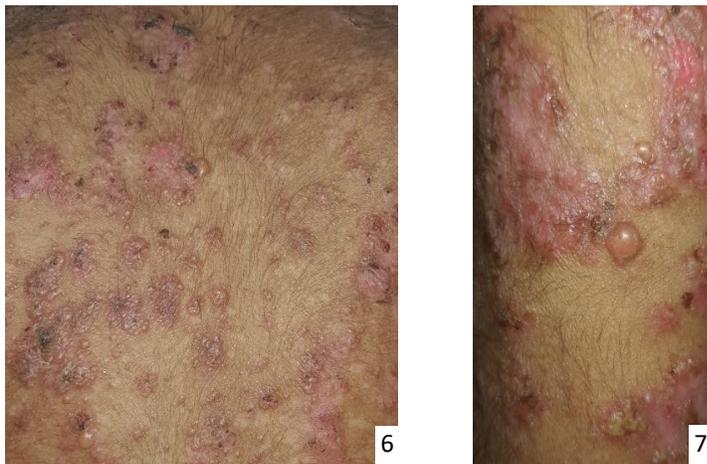
**Figure 4** Eosin & hematoxylin stained section (40X) showing subepidermal split containing neutrophils, eosinophils and lymphocytes

eosinophils and lymphocytes around the blister (**Figure 4**). Unfortunately, immunofluorescence couldn't be performed due to financial issues. He was diagnosed as having CBDC based on clinical and histopathological findings and was put on treatment for the same. Despite receiving oral corticosteroids and dapsone in optimal doses for two weeks, there was minimal improvement in his lesions. Given the atypical presentation and lack of response to conventional treatment, he was re-evaluated clinically.

predominantly in the interdigital spaces, wrists, and axillae (**Figures 6, 7**). A skin scraping was obtained, and microscopic examination revealed *sarcoptes scabiei* mites and their ova, confirming the diagnosis of scabies (**Figure 8**).

A thorough skin examination revealed multiple excoriated papules and linear burrows,

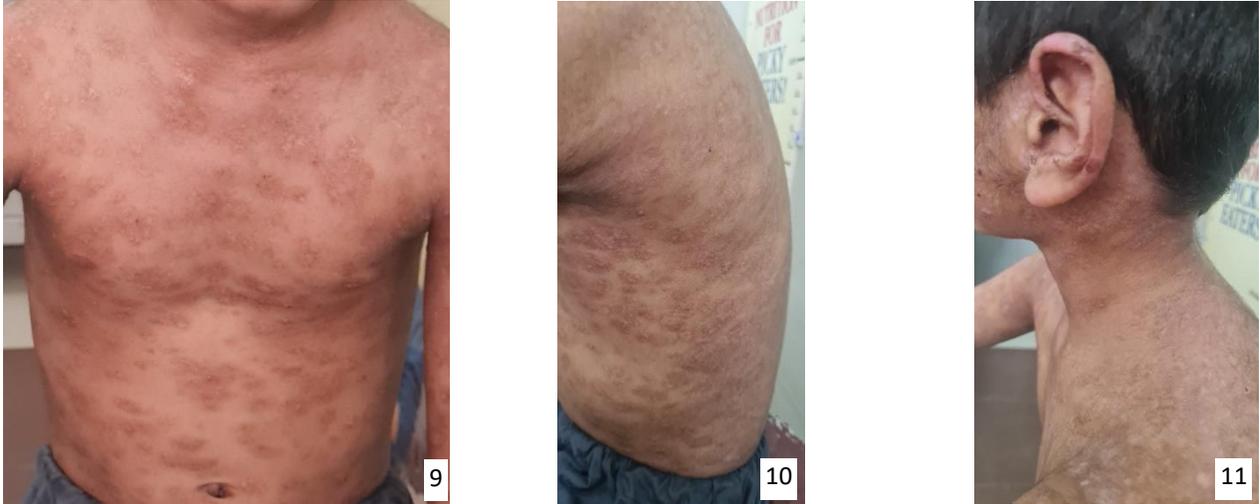
The patient and her family were educated about scabies transmission, and treatment with topical permethrin cream was initiated. Additionally, all household contacts were treated simultaneously. The patient showed significant improvement within one week of treatment, with resolution of bullae and pruritus (**Figures 9-11**). His lesions didn't relapse despite tapering of steroids and dapsone.



**Figures 6 & 7** Blisters, erosions, excoriations and burrows on trunk and leg.



**Figure 8** Scabies mite from skin scraping.



**Figures 9-11** Trunk of patient showing clearance of disease after anti-scabietic treatment.

Scabies is a common parasitic infestation that can mimic various dermatological conditions, leading to misdiagnosis and inappropriate management. In our case, the initial diagnosis of CBDC resulted in delayed appropriate treatment, highlighting the importance of considering scabies in the differential diagnosis of blistering disorders, especially in endemic regions or when there is a lack of response to conventional therapy.

While the typical presentation of scabies includes pruritic papules and burrows, atypical manifestations such as bullae formation can occur, as demonstrated in this case. There have been few cases of atypical presentations of scabies documented globally especially manifesting as blisters.<sup>4,5</sup>

A couple of such cases have been reported from Pakistan as well.<sup>6,7</sup> The mechanism of formation of blisters in scabies is poorly understood. It is suggested that mite's staphylococcus aureus superinfection is the probable mechanism similar to the blister formation in bullous impetigo.<sup>8</sup> Another proposed mechanism is autoantibody mediated immune damage leading to blister formation.<sup>9</sup> The presence of excoriated papules and linear burrows should raise

suspicion for scabies, prompting clinicians to perform a thorough skin examination and microscopic evaluation for mites and ova.

In conclusion, scabies should be considered in the differential diagnosis of blistering dermatoses, particularly in paediatric patients presenting with atypical features or lack of response to conventional therapy. Early diagnosis and appropriate treatment are essential to prevent complications and transmission to close contacts.

### **Conclusion**

We report a case of scabies masquerading as chronic bullous disease of childhood in a pediatric patient. The misdiagnosis led to delayed appropriate management, emphasizing the importance of considering scabies in the differential diagnosis of blistering dermatoses, especially in endemic regions. Early recognition and treatment are crucial to prevent complications and transmission.

**Declaration of patient consent** Patient's legal guardians gave written informed consent for publication of this case report and accompanying images.

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**Conflict of interest** Authors declared no conflict of interest.

**Authors' contribution**

**HT,MF,UA,FA:** Diagnosis and management of the case, critical review of the manuscript, has given final approval of the version of the manuscript to be published.

**ANC,SB:** Identification and management of the case, manuscript writing, has given final approval of the version of the manuscript to be published.

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