

A case of blistering distal dactylitis due to Methicillin-resistant *Staphylococcus aureus*

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Abstract Blistering distal dactylitis is a distinct entity presenting with localized group A β -hemolytic Streptococcus infection of the distal phalanx usually in a child manifesting as multiple bullae on hands and feet. A case of BDD caused by Methicillin-resistant *Staphylococcus aureus* (MRSA) in a 12-year-old male is reported. There was no trauma and other differentials of BDD were ruled out. Patient responded to medication and was discharged. This is the first reported case of BDD in the local setting. We recommend that it should be considered in the differential diagnoses of acral blister formation especially in children.

Key words

Blistering distal dactylitis, MRSA, group A β -hemolytic Streptococcus.

Introduction

Blistering distal dactylitis (BDD) is a localized infection mostly involving the volar pads of the distal phalanx of the digits usually involving children.¹ A case of BDD in a 12-year-old male is reported.

Case report

A 12-year-old male presented to the Dermatology Outpatient Department with a 45-day history of blisters and erosions present on the dorsal and planter surfaces of his feet. Patient initially developed a blister on the planter surface of right foot, which ruptured leaving erosion with size equal to the original blister, and no crusting. After this, multiple painless tense blisters and erosions developed on both feet (**Figure 1**). Patient denied any history of trauma, recent change in shoes, or any use of

topical medications. There was no history of any fever, mucosal involvement, joint pain, photosensitivity, frothy urine, discoloration, pain or swelling of digits. There was no history of any hair, teeth or nail changes. Patient also denied any previous history of atopy or dry skin. This was his first presentation and there was no family history of any skin disease.

On examination patient was afebrile and vitally stable. Peripheries were warm. Multiple tense blisters and erosions were present bilaterally on both planter and dorsal surfaces of toes and feet. Toe webs were clear and fungal scrapings were negative. Aspiration of the blister was done and fluid was sent for Gram stain and culture, which revealed Methicillin-resistant *Staphylococcus aureus* (MRSA) sensitive to vancomycin and linezolid. Patient was given oral Linezolid 10mg/kg twice daily for 14 days alongwith topical mupirocin. There was marked improvement within 7 days with no new blister formation. **Figure 2** shows the condition of the patient's feet after 1 month during a follow-up visit.

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Figure 1 Dorsal and planter sides of patient's feet



Figure 2 Condition after 1 month follow-up

Discussion

Blistering distal dactylitis is a localized blistering infection involving the distal phalanx of the digits of hands and feet.¹

Less commonly, it can also involve proximal or lateral nail folds, palmar or dorsal surfaces of hand, toes and feet, such as in our case.² Usually, it occurs in children aged 2-16 years of age but there have been case reports in adult patients as well.^{3,4} This case, therefore, occurred in the typical age group.

Typically, BDD is caused by *Streptococcus pyogenes* with a few cases caused by

Staphylococcus aureus as well.^{4,5} A co-infection with Herpes Simplex virus can also be present.⁶ The presence of multiple bullae is associated with a higher chance of *Staphylococcus aureus* infection.⁷ This case had presence of MRSA, which suggests increased prevalence of resistant microorganisms in the community as shown by previous research.⁸

The differential diagnosis for this case included trauma, friction blisters, bullous impetigo, bullous tinea, herpetic whitlow, epidermolysis bullosa, chilblains and infected eczema, which were ruled out sequentially.^{6,9} In our case, there was no history of trauma or any change in shoes. In bullous impetigo usually superficial blisters

and honey-cruusted erosions occur but they were not present in this patient. Clearance of toe-webs and negative fungal scrapings decreased the likelihood of bullous tinea. No painful vesicles were seen and there was clinical improvement with antibiotics thus decreasing the probability of herpetic whitlow. There was no history of persistent swollen painful digits in cold weather, making chilblains unlikely. There was no history of any dry skin, atopy, asthma or previous skin disorder in the patient and his family. Thus, the definite diagnosis of BDD was made on basis of clinical picture, Gram stain and culture.

To our knowledge, this is the first case of BDD to be reported in Pakistan. The possible reason for this perhaps may be unawareness of this disorder. Therefore, we suggest local doctors should keep BDD as part of the differential diagnosis of blister formation in extremities especially in children.

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