

IMAGING CASES

Ulcerative skin lesions – what is the diagnosis?

Lesões cutâneas ulceradas: qual o diagnóstico?

Ana Foles¹ , Rita Carvalho¹ , Biana Moreira¹ , Joana Cachão¹ 

A previously healthy 11-year-old boy was admitted to the Pediatric Urgency Department with cutaneous lesions in the lower limbs, that caused functional inability for walking.

The lesions first appeared 4 weeks before, when the boy was travelling to Minas Gerais, in Brazil.

Initially, the patient noticed punctiform and erythematous lesions in the lower limbs, pruriginous, apparently due to mosquito bites. The lesions evolved to a pustule with a reddish halo, and later to ulcerations with elevated margins. An adherent hard crust (1 cm of diameter) covered each lesion and yellow exudate appeared.

The number of lesions progressively increased in the lower limbs and extended to the upper limbs. The crusts became greyer, thicker and harder, and when removed, showed a shallow punched-out ulceration. The patient noticed swelling in the feet and both ankles, associated with significant pain (**figures 1, 2 and 3**). At admission, the patient refused walking. No fever or other systemic symptoms were reported.

What is your diagnosis?



Figure 1,2,3 – Ecthyma lesions in the lower limbs

1. Department of Pediatrics, Unidade Local de Saúde da Arrábida. 2910-446 Setúbal, Portugal.
aibfoles@gmail.com; ritaisjcarvalho@gmail.com; mariabianamoreira@campus.ul.pt; joanacbc@hotmail.com

DIAGNOSIS

Ecthyma

DISCUSSION

The clinical diagnosis of ecthyma was suspected.

Laboratory analysis revealed leucocytosis (20900/uL), with neutrophilia (76,3%) and elevated C-reactive protein (51,1 mg/L). Blood cultures were negative. Culture of the exudate identified group A beta-hemolytic *Streptococcus* and methicillin-sensible *Staphylococcus aureus*.

The patient began treatment with intravenous flucloxacillin (100 mg/kg/day) and clindamycin (30 mg/kg/day). Dermatologist assessment confirmed the diagnosis and recommended additional local procedures, such as daily cleaning of the lesion with chlorhexidine diluted in water, incision and removal of the crusts and application of topic antibiotic (fusidic acid) and collagenase clostridiopeptidase A ointment.

Clinical improvement was noted; therefore, clindamycin was stopped after three days and intravenous flucloxacillin was switched to oral on the fourth day, completing 14 days of treatment.

The patient was discharged after five days, occurring a gradual improvement of the lesions. On six-months follow-up, total resolution of the lesions was observed, while some scars remained on the site of the deeper lesions.

Ecthyma is an ulcerative pyoderma of the skin. Unlike impetigo, ecthyma lesions extend through the epidermis and deep into the dermis, causing scars when healing. It is caused by group A beta-hemolytic *Streptococcus*, often with a concomitant *Staphylococcus aureus* infection.⁽¹⁾

Patients may be predisposed to develop ecthyma in the presence of immunocompromised states (for example, diabetes mellitus, neutropenia, HIV infection) or preexisting tissue damage, like dermatitis, excoriation or insect bites.

A few factors contribute to the progression of streptococcal skin infections, such as poor hygiene, crowded living conditions and high temperature and humidity (typical of tropical areas). In returning travelers, ecthyma may imitate some zoonotic infections.^(2,3)

Ecthyma lesions usually begin as a vesicle or a pustule; later a hard crust covers an indurated ulcer. It affects more often the lower limbs and can be associated with local adenopathy.

Differential diagnoses include ecthyma gangrenosum, pyoderma gangrenosum, papulonecrotic tuberculids, leishmaniasis and anthrax.

It is essential to provide an early diagnosis and proper treatment to avoid complications related with streptococcal skin infections, as cellulitis, necrotizing fasciitis, lymphadenitis, bacteraemia and, rarely, acute poststreptococcal glomerulonephritis or rheumatic fever.^(2,4) The most frequent long-term complication is permanent scarring.⁽⁵⁾

The treatment includes systemic and topical antibiotics and gradual

removal of the crusts (as they get soften with topical treatment). Furthermore, it is crucial to improve hygiene in order to control the infection.

ABSTRACT

Ecthyma is an ulcerative skin infection, usually caused by group A beta-hemolytic *Streptococcus*.

High temperatures and humidity facilitate the development of the disease, which is particularly common among travelers returning from tropical countries. Early diagnosis and adequate treatment, with systemic antibiotics and local intervention, is essential to minimize the risk of complications.

The authors present the case of an 11-year-old boy with exuberant ecthyma lesions conditioning severe pain, which prevented walking.

Keywords: ecthyma; skin infection; traveler; ulcerative lesions

RESUMO

Éctima é uma infecção profunda da pele, geralmente causada pelo *Streptococcus* beta-hemolítico do grupo A. A temperatura elevada e a humidade facilitam o desenvolvimento da doença, que é particularmente frequente em viajantes de países tropicais. O diagnóstico precoce e o tratamento adequado, com antibioterapia sistémica e tópica, são essenciais para minimizar o risco de complicações.

Os autores apresentam o caso de um adolescente de 11 anos com lesões de éctima exuberantes associadas a edema e dor importante, com impotência funcional para a marcha.

Palavras-chave: éctima; infecção cutânea; lesões ulcerativas; viajante

AUTHORSHIP

Ana Foles – Conceptualization; Data Curation; Formal Analysis; Investigation; Writing – original draft

Rita Carvalho – Conceptualization; Data Curation; Investigation; Writing – original draft

Biana Moreira – Conceptualization; Formal Analysis; Writing – review & editing

Joana Cachão – Conceptualization; Formal Analysis; Writing – review & editing

REFERENCES

1. Galli L, Venturini E, Bassi A, Gattinara GC, Chiappini E, Defilippi C, *et al*; Italian Pediatric Infectious Diseases Society; Italian Pediatric Dermatology Society. Common Community-acquired Bacterial Skin and Soft-tissue Infections in Children: an Intersociety Consensus on Impetigo, Abscess, and Cellulitis Treatment. *Clin Ther*. 2019 Mar;41(3):532-551.e17.
2. Morelli JG. Ecthyma. In: Kliegman RM, Stanton BF, Geme JW, Schor NF, Behrman RE, editors. *Nelson textbook of pediatrics*. 19th ed. Philadelphia: Elsevier Saunders; 2011. p.3554-55.
3. Orbuch DE, Kim RH, Cohen DE. Ecthyma: A potential mimicker of zoonotic infections in a returning traveler. *Int J Infect Dis*. 2014;29:178–80.
4. Stevens DL, Bisno AL, Chambers HF, Dellinger EP, Goldstein EJ, Gorbach SL, *et al*; Infectious Diseases Society of America. Practice guidelines for the diagnosis and management of skin and soft tissue infections: 2014 update by the Infectious Diseases Society of America. *Clin Infect Dis*. 2014 Jul 15;59(2):e10-52.
5. Costa e Castro A, Milheiro Silva T, Correia P. Ecthyma: A Diagnosis to Keep in Mind. *Port J Pediatr* 2020;51:221-2.

CORRESPONDENCE TO

Ana Foles
Department of Pediatrics
Unidade Local de Saúde da Arrábida
Rua Camilo Castelo Branco, Aptd. 140
2910-446 Setúbal
Email: aibfoles@gmail.com

Received for publication: 21.10.2023

Accepted in revised form: 17.10.2024