Portuguese Journal of Dermatology and Venereology

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DERMATOLOGY IMAGES

Methotrexate overdose with unique histopathological findings

Toxicidade por metotrexato com achados histopatológicos singulares

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A 55-year-old patient with a history of psoriatic arthritis was admitted to our department with a 1-month history of disseminated painful infra-centimetric skin ulcers (Figs. 1 and 2) and odynophagia, following daily intake of methotrexate 15 mg for 3 weeks, by mistake. On ENT examination, an ulcer could be observed on the left vocal cord. Laboratory workup revealed pancytopenia but normal liver and kidney function tests. A skin biopsy was performed, and histopathology revealed a superficial ulcer on acanthotic epidermis, with hypergranulosis. It also showed hydropic degeneration of the basal layer with isolated necrosis of keratinocytes and eosinophil exocytosis, as well as dermal edema with dense, band lymphocytic inflammatory infiltrate with numerous eosinophils. These findings were consistent with methotrexate overdose, with an erythema multiform-like pattern (Figs. 3 and 4). The patient received endovenous leucovorin 17 mg every 6 h with marked improvement of both cutaneous lesions (which remitted in 3 days) and pancytopenia, which resolved in 6 days.

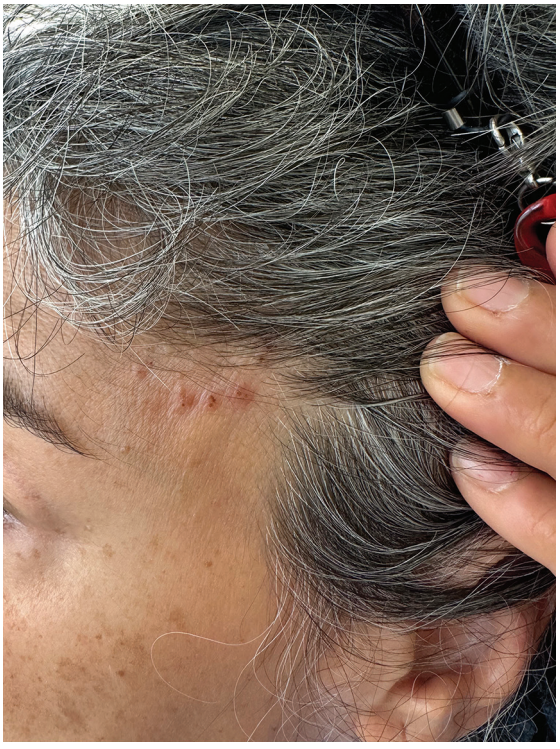

Figure 1. Clinical picture: mucous ulcerations.

Cutaneous ulceration is an important but uncommon manifestation of methotrexate toxicity, usually arising within psoriatic plaques and often preceding systemic involvement.[1,2] Histology typically reveals keratinocyte swelling, dyskeratosis, and epidermal necrolysis with scant inflammation.[3] However, our case displayed a rare lichenoid interface dermatitis with numerous eosinophils – an unusual pattern previously reported only in case reports.[4,5] This atypical profile can mislead clinicians toward immunobullous diseases or other inflammatory skin conditions, delaying life-saving intervention. Methotrexate

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Received: 10-05-2026
Accepted: 11-07-2026
DOI: 10.24875/PJDV.26000061

Available online: 03-09-2026
Port J Dermatol and Venereol. (ahead of print)
www.portuguesejournalofdermatology.com

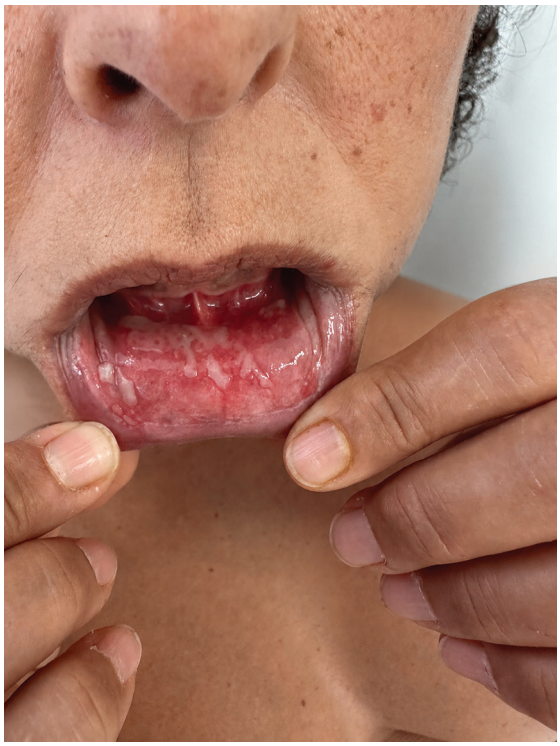

Figure 2. Clinical picture: infra-centimetric facial erosions, with underlying erythema.

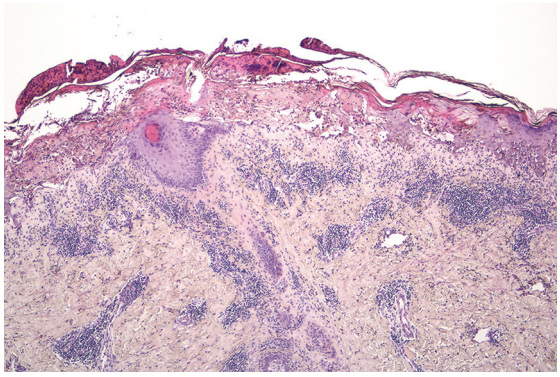

Figure 3. Histopathological picture (H&E ×100).

toxicity frequently stems from dosing errors, drug interactions, or folate deficiency. Because cutaneous signs may precede bone marrow suppression, rapid recognition and urgent methotrexate withdrawal with timely leucovorin rescue are critical.

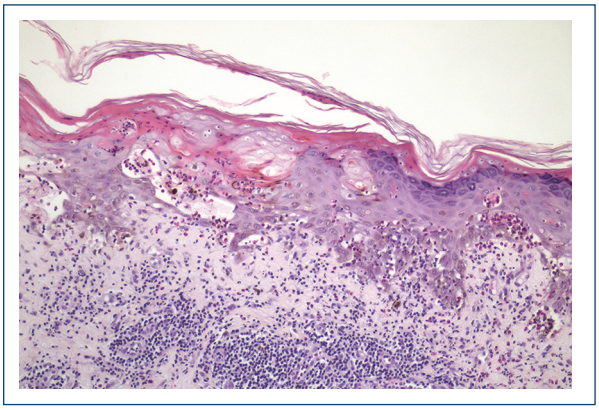

Figure 4. Histopathological picture (H&E ×400).

Funding

None.

Conflicts of interest

None.

Ethical considerations

Protection of human subjects and animals. The authors declare that no experiments on humans or animals were performed for this research.

Confidentiality, informed consent, and ethical approval. This study does not involve biological samples, and does not require ethical approval. SAGER guidelines do not apply. Informed consent was obtained and attached.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing or creation of the content of this manuscript.

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