Nail psoriasis treated with intralesional methotrexate infiltration*

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Dear Editor,

Psoriasis is a chronic inflammatory skin disease characterized by recurrent events. Its prevalence around the world is approximately 1-3%.[1,2] It´s estimated that 80-90% of patients with psoriasis will present with nail disorders throughout their lives.[2,3] Studies have shown that nail psoriasis is the causes a significant social problem, often associated with pain.[2] Different therapeutic options can be found for nail psoriasis, which include topical medication, intralesional treatment, systemic therapy, conventional therapies with immunobiological drugs, as well as non-pharmacological treatments.[2,3] Methotrexate (MTX) is a folic acid analogue, responsible for inhibiting the synthesis of deoxyribonucleic acid.[2,3] A literature review shows that intralesional MTX has been successfully used for several indications with no complications reported. The treatment of nail psoriasis has still yielded unsatisfactory results, leading doctors to search for more effective therapeutic approaches.[2]

Case 1. We report a 45-year-old female patient with nail dystrophy for 2 years referred for onychomycosis treatment. She presented with exuberant subungual hyperkeratosis and discrete cupuliform depressions, in addition to erythema, periungual edema, and pain in the right hallux (Figure 1). No changes were observed in the other nails. We observed no other alterations on physical examination. Direct mycological examination, repeated weekly for 4 weeks, was always negative. MRI of the hallux confirmed the diagnosis of psoriatic arthritis, initially monoarticular. We started treatment with systemic MTX and continued for 3 months with no response. Then, we used leflunomide for 12 months. The patient reported improvement of joint pain, but we observed a worsening of nail dystrophy. No clinical change was observed after one year. Then, we opted for intralesional infiltration with methylprednisolone, with no improvement. Finally, we used intralesional infiltration with MTX 25 mg/ml (Figure 2). Case 2. A 60-year-old male patient with psoriasis in small plaques affecting seven fingernails. The initial treatment consisted of topical occlusive therapy with calcipotriol and betamethasone associated with infiltrations of methotrexate at 25 mg/ml (Figure 3). The treatment with MTX consisted of the infiltration of 0.1 ml (2.5 mg) per affected nail, every 30 days, for 3 consecutive months. As the applications occurred at the level of the proximal nail fold, in the case of the hallux, the dose was divided with an interval of 1cm. No anesthetic nerve block was performed and patients reported pain. After the third infiltration, the patients demonstrated an evident improvement. Five months after the first application, they still presented a good evolution.

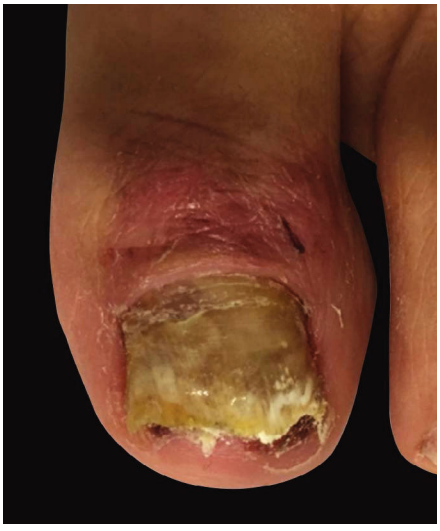

Figure 1: Left halux, pre-treatment. Subungual hyperkeratosis, edema and periungual erythema

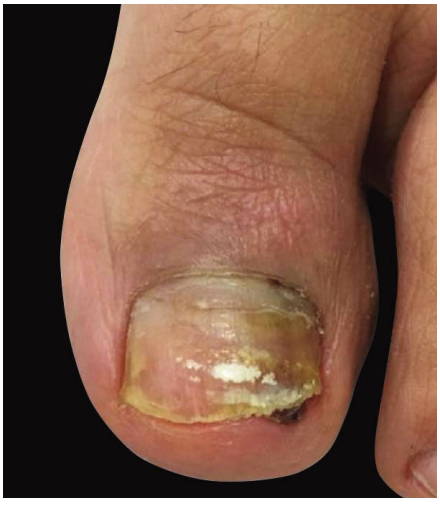

Figure 2: Progressive improvement of nail dystrophy five months after the first infiltration

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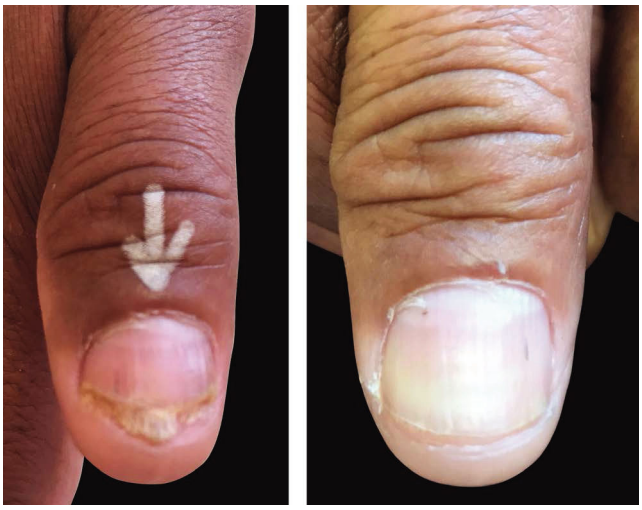

Figure 3: Right first digit, pre-treatment (left) and after 60 days (2 infiltrations), 1 infiltration every 30 days (right)

The prevalence of nail psoriasis in patients with psoriatic arthritis may exceed 80%. However, nail psoriasis, in the absence of cutaneous or articular disease, is present in 5-10% of patients.[3] Nail psoriasis may also be considered as an indicator for patients at risk for future psoriatic arthritis.[4] Topical treatments mentioned in the literature include calcipotriol, topical steroids, 5-fluorouracil, antralin, tazarotene, and cyclosporine in oil solution. The application of these agents is recommended for up to 6 months, period during which the nail plate grows completely from the matrix to the hyponychium.[2] The chronic use of corticosteroids has some local side effects such as periungual telangiectasia, skin atrophy, and appearance of the underlying phalanx. In addition, an important complication of intralesional treatment is phalangeal atrophy and the risk of the disappearing digit.[3] MTX, acitretin, and ciclosporin are conventional drugs indicated for the treatment of plaque psoriasis, but with non uniform results in nail psoriasis.[1] However, non-pharmacological therapies such as phototherapy, superficial radiotherapy, grenz rays, and electron therapy show good results in some reports.[2] Recently, biological agents, such as TNF-alpha inhibitors (etanercept, infliximabe, and adalimumab), anti-IL-12-23 (ustekinumab), and anti-IL-17 (secukinumab) have been used in the treatment of nail psoriasis with good results. However, risks, benefits, and costs must be weighed when the indication is exclusively for the treatment of nail disorders.[3] MTX is the first-line drug for the systemic treatment of plaque psoriasis with or without nail injury and in joint disease, and can be administered orally or subcutaneously.[3] Intralesional injection has been successfully used in ectopic pregnancy, early gastric cancer, and keratoacanthoma in dermatology.[2,4] In the literature, only two cases of intralesional MTX treatment have been reported, one of which compares the use of MTX, ciclosporin, and intralesional triamcinolone acetonide.[5] Eight nails were treated and it was possible to notice a significant reversion of onychodystrophy and a sustained improvement of the lesions. However, the second left fingernail showed a slower response to therapy. Therefore, the use of intralesional MTX, although off-label, may be a new therapeutic alternative for nail injury. The dosages used were empirical and more studies are needed to determine a pattern of response and adequacy of the dosage.❑

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