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Effective treatment of nail psoriasis with apremilast: report of two cases and review of the literature

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Abstract

Nail psoriasis can cause great morbidity and a negative impact on the personal and work-related life of the patients. However, it responds more poorly to most drug therapies. Classically, the first line of treatment for nail psoriasis has been topical medication, but the new biological drugs seem to be the most effective treatment. Apremilast is another systemic oral drug that has shown a significant reduction of the severity in moderate-severe plaque psoriasis, as well as nail and scalp psoriasis. We present two cases of patients who exhibited a rapid response to treatment with apremilast.

Keywords: apremilast, nail psoriasis

Introduction

Psoriasis is a chronic systemic inflammatory disease that affects up to 2.6% of the population depending on the series [1]. About 50% of patients have nail involvement as well, especially if there is concomitant arthritis [2]. Nail lesions can cause great morbidity over time and a negative impact on the personal and work-related life of the patients [3]. It is important to evaluate independently cutaneous and nail involvement owing to the differences in efficacy of some treatments. In general, nail psoriasis responds more poorly or more slowly to most drug therapies. Although the new biological drugs [3] seem to be the most effective treatment, their efficiency is questionable because of their high cost. Classically, the first line of treatment for nail psoriasis has been topical medication, such as corticosteroids or calcipotriol, but their effectiveness is limited by poor penetration into the nail bed and matrix [4]. Classic systemic treatment with cyclosporin, acitretin or methotrexate have shown benefit for scalp and nail psoriasis, but other systemic side effects are often more a concern if patients do not also have more widespread disease. In addition, methotrexate has been used intralesionally with good effect, but patients may refuse or discontinue it because of pain or hyperpigmentation [5]. Apremilast is another systemic oral drug that has shown a significant reduction in severity in moderate-severe plaque psoriasis and in nail and scalp disease. We present two patients who exhibited a rapid response of their nail psoriasis to treatment with apremilast.

Case Synopsis

A 39-year-old man, with a history of elevated liver enzymes and dyslipidemia consulted our clinic for treatment of his 5-year history of plaque psoriasis. He had been previously treated with betamethasone dipropionate and topical calcipotriol. Physical examination revealed erythematous-scaling plaques on the elbows, knees, buttocks, and back of the hands, that was not concerning the patient. However, he had significant bilateral fingernail involvement that made it impossible for him to perform his job as a merchant and clearly affected his quality of life. This was the reason that motivated the patient to ask for a more effective treatment. On physical examination, all ten nails of the hands were affected and showed the oil stain pattern, nail pitting, splinter hemorrhages, and onycholysis, reaching a NAPSI of 44 (**Figure 1A**). After a month of treatment with apremilast, the patient showed a

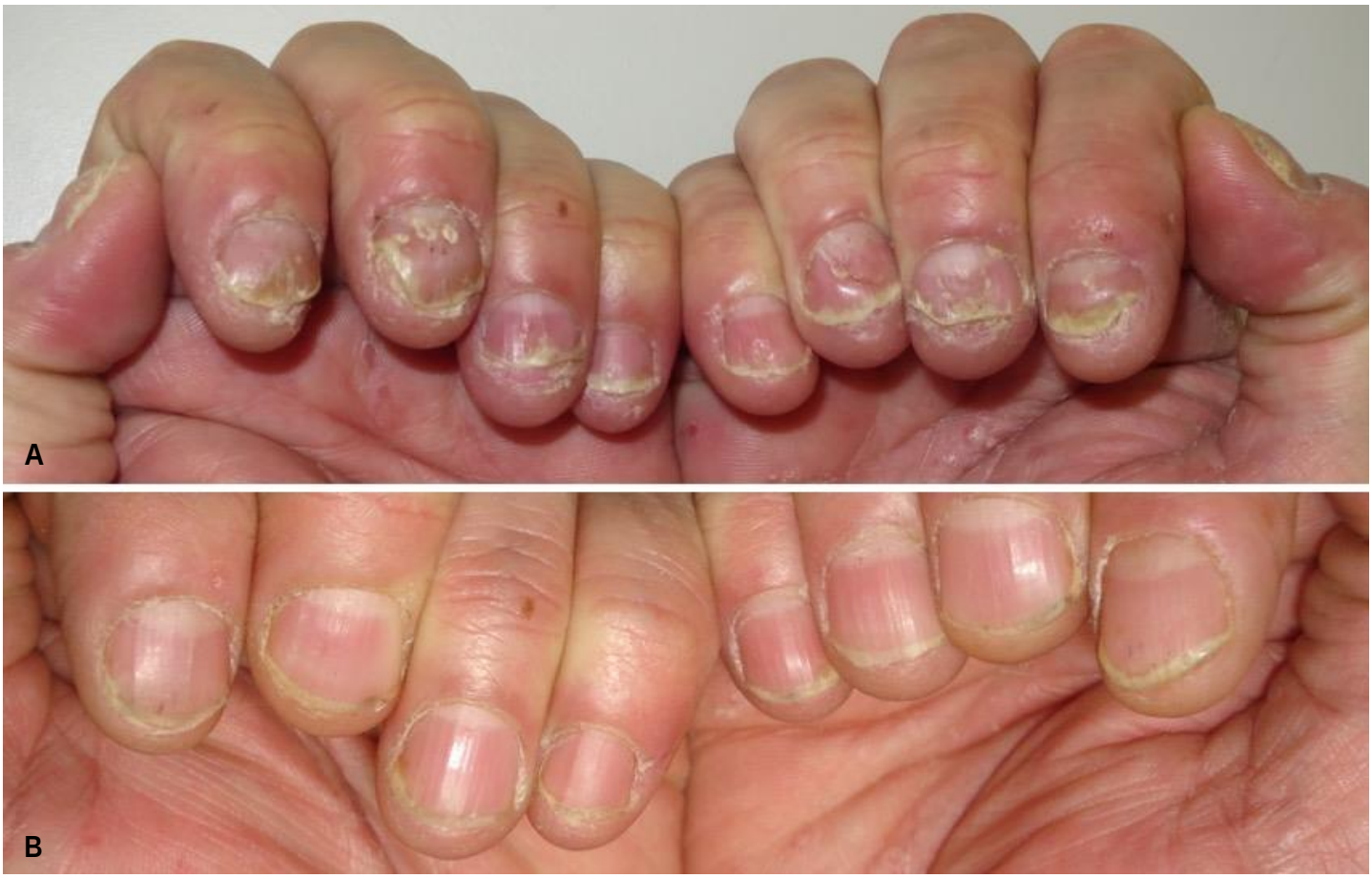

Figure 1. ***A)*** *Affectation of the 10 fingernails of the hand and* ***B)*** *spectacular improvement after sixteen weeks of treatment with apremilast*

significant amelioration of pruritus and scaling. After sixteen weeks, there was a remarkable improvement in nail findings, achieving a NAPSI of 4 (improvement of 90%), (**Figure 1B**) and high patient satisfaction.

A 61-year-old man with a 10 year history of plaque psoriasis along with active chronic alcoholism, elevated liver enzymes, and moderate dyslipidemia presented to our outpatient clinic. He noted flaring of his plaque psoriasis and severe worsening of his nail involvement over the past 9 months with a NAPSI score of 32 (**Figure 2A**). The patient had a partial response to topical treatment with betamethasone dipropionate and calcipotriol, but was not able to attend phototherapy sessions. Owing to the patient's comorbidities we decided to start treatment with apremilast. The drug was well tolerated except for two isolated episodes of vomiting during the first four weeks. After six months of treatment the patient had no significant side effects and was able to maintain an absolute PASI<5 and a high degree of satisfaction with the results. The patient was extremely satisfied with the improvement of his nails (**Figure 2B**). Only a slight focal thickening remained in one nail.

Case Discussion

Nail psoriasis is a disturbing and unsightly manifestation of psoriasis and is a challenge for doctors. The presence of comorbidities is frequent among patients with psoriasis, which makes it even more difficult to choose a treatment that does not exacerbate the patient's underlying conditions. Although nail psoriasis does not involve life threatening complications, people who suffer from it can feel psychological discomfort and distress. Apremilast is an oral drug approved for the treatment of patients with psoriasis or psoriatic arthropathy whose mechanism of action is the inhibition of phosphodiesterase-4 [6]. The efficacy of topical phosphodiesterase-4 inhibitors has been proved in certain dermatological diseases including atopic dermatitis [7]. To our knowledge, the efficacy

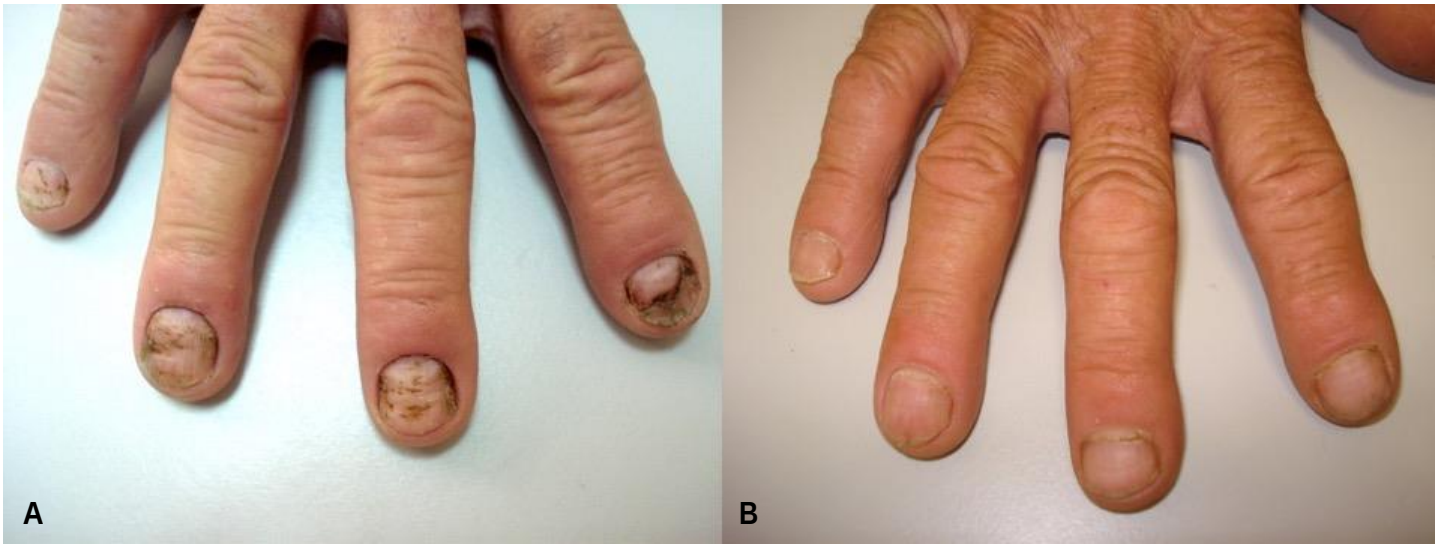

Figure 2. ***A)*** *Nail psoriasis of the right hand.* ***B)*** *Improvement after six months with apremilast .*

of apremilast in nail psoriasis has been evaluated as a secondary endpoint in only two randomized clinical trials (ESTEEM 1 and 2). After sixteen weeks of treatment NAPSI improvement was limited, but by week thirty-two it improved by 43.6% and 60% in ESTEEM1 [8] and ESTEEM 2 [9], respectively. The systematic review published by Pasch MC about the efficacy of different therapies used for nail psoriasis concludes that the new biological drugs (anti-TNF, anti IL17, anti IL12/23) are highly effective for the treatment of this entity, with topical treatments relegated to cases with very slight affectation of the nails [10]. Apremilast can be a suitable therapeutic option prior to the use of biological drugs in patients with moderate-severe psoriasis who require systemic treatment but should avoid classical systemic drugs owing to their comorbidities.

Conclusion

We present two new cases of patients treated with apremilast that presented a significant and early improvement of nail psoriasis 4-6 months after starting treatment. Further randomized comparative studies are needed to evaluate the efficacy of this drug and support our results.

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