

# Nail pitting and onycholysis

Joana Tendais-Almeida, Fátima Aguiar, Tiago Torres

## Case study

A previously healthy man, 43 years of age, was referred to the dermatology department with a one-year history of fingernail onychomycosis. His condition was refractory to oral antifungal treatment (terbinafine 250 mg QD for three months). On physical examination, nail pitting and onycholysis affecting seven fingernails was noted (Figure 1A). He also had mild erythematous silvery-white scaly patches in the left external ear canal (Figure 1B) and slight, fine scaling of the scalp, which was associated with mild pruritus. No other skin lesions were detected.

## Question 1

What is the most likely diagnosis for this patient?

## Question 2

How do you diagnose this disease?

## Question 3

Are there other possible diagnoses?

## Question 4

What may be the implications of nail involvement in this disease?

## Question 5

How do you manage this patient?

## Answer 1

The most likely diagnosis in this case is psoriasis with mainly fingernail involvement – nail psoriasis. Although nail psoriasis occurs as an isolated symptom in only 5–10% of patients, it is present in approximately 50% of patients with psoriasis.<sup>1</sup>

This patient presented with nail plate depressions (nail pitting) and nail detachment from the nail bed (onycholysis), two of the most common features of nail psoriasis. However, these features alone are not specific enough to make this diagnosis as they can be present in several other conditions.<sup>2</sup> The combination of the nail pitting and onycholysis with the silvery-white, scaly patches in the external ear canal and scalp (classical signs of skin psoriasis) makes nail psoriasis the most likely diagnosis in this case.

## Answer 2

It is easier to diagnose nail psoriasis when skin psoriatic features are also present, as in this case.<sup>3</sup> There are many clinical manifestations of nail psoriasis (Table 1) depending on the part of the nail that is affected, nail pitting being the most common.<sup>4</sup> In the absence of skin psoriatic lesions, nail psoriasis may be a challenging diagnosis even for a dermatologist, as the features mentioned are not always present and they are not specific for nail

psoriasis.<sup>3</sup> Therefore, it may be necessary to use additional techniques such as nail biopsy and dermatoscopy to clarify this diagnosis.<sup>3</sup>

## Answer 3

The most frequent differential diagnosis of nail psoriasis is onychomycosis.<sup>3</sup> However, there are some signs that are more typical of onychomycosis:<sup>3</sup>

- preferential involvement of toenails
- involvement of one or a few digits
- loss of nail transparency
- pitting lesions.<sup>3</sup>

In addition, these two conditions can co-exist in the same patient, making the diagnosis even more challenging.<sup>3,4</sup>

Nail pitting may also be present in alopecia areata and lichen planus.<sup>5</sup> However, the most characteristic features in lichen planus are longitudinal grooves and fissures, and dorsal pterygium, and nail pitting may not be present.<sup>3</sup> In alopecia areata, nail pitting is usually fine and stippled, and other features such as areas without body hair should be present.<sup>3</sup>

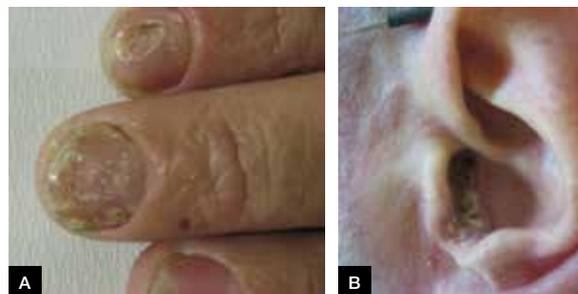


Figure 1. (A) Clinical appearance of patient's fingernails (B) external ear canal

**Table 1. Clinical features of nail psoriasis**

Clinical features	Description
Nail pitting	Superficial depressions in the nail plate
Leukonychia	1–2 mm wide white bands that involve more than one nail and are due to the internal desquamation of parakeratotic cells
Oil spots or salmon patches	Translucent and discoloured red–yellow patches located on the nail plate
Onycholysis	Separation of the nail plate from nail bed
Subungual hyperkeratosis	Yellow and oily nails that result from raising the nail plate off the nail bed as result of deposition of keratinocytes
Splinter haemorrhages	Small, linear structures, 2–3 mm long, at the distal end of nail plate

**Answer 4**

Nail psoriasis is a marker for more severe skin manifestations as well as joint involvement.<sup>2</sup> This association is well established in the literature,<sup>2,6</sup> and different studies have found that 70–80% of patients with psoriatic arthritis have nail involvement.<sup>3,7,8</sup> This connection may help to diagnose psoriatic arthritis in patients with nail psoriasis, when skin lesions are absent.<sup>2</sup> It may also be a predisposing factor for secondary fungal infections.<sup>2</sup>

Apart from health implications, nail psoriasis causes significant functional and cosmetic impairment, leading to psychological stress and a negative impact on social and work activities.<sup>1,9</sup>

**Answer 5**

Nail psoriasis is particularly difficult to treat given the long-term treatment required, which is often ineffective.<sup>9</sup> The most popular topical therapeutic choices are glucocorticosteroids and vitamin D3 analogs, although there is no standardised therapeutic regimen.<sup>5</sup> Systemic therapeutic agents such as cyclosporin and methotrexate may improve both skin and nails, but they are associated with end-organ toxicity and are not recommended for patients with only nail lesions.<sup>3,9</sup>

With the advent of biologic therapies for psoriasis, the treatment of nail psoriasis has improved significantly. In addition to medical treatment, there

are simple approaches that should be encouraged, such as keeping nails short in order to prevent infection, preventing nail injury using gloves, avoiding manicures, and applying emollient on hands and nail folds.<sup>1,3</sup>

**Key points**

- Nail psoriasis is not the most common presentation of psoriasis, but 5–10% of psoriatic patients can present with it as an isolated form.
- In the absence of skin psoriatic lesions, nail psoriasis may be a challenging diagnosis.
- The most common features of nail psoriasis are not specific enough to make this diagnosis as they are present in other conditions such as onychomycosis.
- Nail psoriasis is a marker for more severe skin manifestations as well as joint involvement.
- Nail psoriasis treatment is long term and often ineffective.

**Authors**

Joana Tendais-Almeida MD, Family Medicine Trainee, USF Serpa Pinto, Porto, Portugal. joanatendaisalmeida@gmail.com

Fátima Aguiar MD, Family Medicine Doctor, USF Serpa Pinto, Porto, Portugal

Tiago Torres MD, PhD, Dermatologist, Department of Dermatovenereology, Centro Hospitalar Porto, Porto, Portugal; Instituto de Ciências Biomédicas Abel Salazar, University of Porto, Portugal

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correspondence [afp@racgp.org.au](mailto:afp@racgp.org.au)