

## Onychomycosis in patients with psoriasis – a multicentre study

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### Summary

1–3% of human population is affected by psoriasis. Nail disorders are reported in 10–80% of patients with psoriasis. Nail deformations vary according to their degree of severity but are mainly represented by pitting, Beau's lines, hyperkeratosis, onycholysis, leukonychia or oil drops. Onychomycosis is a fungal infection of the nails, caused by dermatophytes, yeast and moulds. In this study, 228 patients with psoriasis aged between 18 and 72 were examined (48 – from Plovdiv, Bulgaria; 145 – from Plevan, Bulgaria and 35 – from Thessaloniki, Greece); 145 of them were male and 83 of them were female. The examination of the nail material was performed via direct microscopy with 20% KOH and nail samples plated out on Sabouraud agar methodology. The severity of the nail disorders was determined according to the Nail Psoriasis Severity Index (NAPSI). Positive mycological cultures were obtained from 62% of the patients with psoriasis (52% – Plovdiv, Bulgaria; 70% – Plevan, Bulgaria and 43% – Thessaloniki, Greece). In 67% of the cases, the infection was caused by dermatophytes, in 24% by yeast, in 6% by moulds and in 3% by a combination of causes. All patients with psoriasis were identified with high levels of NAPSI, whereas the ones with isolated *Candida* had even higher levels. Seventeen percentage of the patients have been treated with methotrexate, 6% have been diagnosed with diabetes and 22% have been reported with onychomycosis and tinea pedis within the family. An increased prevalence of onychomycosis among the patients with psoriasis was found. Dystrophic nails in psoriasis patients are more predisposed to fungal infections. The mycological examination of all psoriasis patients with nail deformations is considered obligatory because of the great number of psoriasis patients diagnosed with onychomycosis.

**Key words:** Psoriasis, onychomycosis.

### Introduction

Psoriasis is one of the most common causes for abnormal nail morphology. Nail changes often accompany skin lesions; very rarely they can be represented as a sole manifestation of psoriasis.<sup>1</sup> Nails are affected in 10–55% of all patients with psoriasis. Among patients

with psoriatic arthritis, nails are affected in 75–86% of the patients.<sup>2,3</sup>

The spectrum of nail changes in psoriasis is very wide. It includes pitting, hyperkeratosis, onycholysis, leukonychia, oil drops, etc.<sup>4–7</sup>

Onychomycosis is a fungal infection of the nail plate caused by dermatophytes, yeast and moulds.<sup>8–10</sup> Onychomycosis is the most common nail disease worldwide and constitutes about half of all onychopathies.<sup>8–10</sup>

Recent studies on the extent of onychomycosis of the total population of the United States and Canada have showed frequency of 6.5%<sup>3</sup> and of 14%<sup>4</sup>, respectively. For comparison, the 'Achilles' project – the largest study of onychomycosis in 20 European countries, has shown a rate of 29.6%.<sup>11</sup>

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