

# The First Case of Fingernail Onychomycosis Due to *Neoscytalidium Novaehollandiae*, Molecular Identification and Antifungal Susceptibility

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## Abstract

Onychomycosis is considered a fungal nail infection caused mainly by dermatophytes, yeasts and non-dermatophyte molds including dematiaceous fungi. Onychomycosis caused by non-dermatophyte molds is a health problem in the medical environment as the patients frequently return to outpatient clinics seeking new therapeutic modalities. Here, we report the first case of onychomycosis caused by a black fungus, *Neoscytalidium novaehollandiae*, in the right hand finger nail of a 52-year-old Iranian female with no history of immunodeficiency and underlying disease. The pattern of nail involvement was recognized as total dystrophic onychomycosis. Examination of nail scrapings with potassium hydroxide revealed brown, septate and branching sub-hyaline to dark-colored hyphae. The black fungus isolated in culture was identified as *Neoscytalidium novaehollandiae* by molecular analysis. The patient received oral terbinafine plus ciclopirox nail lacquer twice a week and began responding to the treatment three months after initial antifungal therapy. Additional four weeks' use of terbinafine plus ciclopirox nail lacquer completely resolved the clinical manifestations of onychomycosis. After four months, both microscopy and culture were negative.

**Keywords:** Dematiaceous fungi; Iran; *Neoscytalidium novaehollandiae*; Onychomycosis