

# Refractory tinea corporis or cruris caused by *Trichophyton indotinea*

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## 1 *Trichophyton indotinea* causes refractory and inflammatory dermatophytosis and is increasing in prevalence<sup>1</sup>

Dermatophytic fungi, including the commonly isolated *Trichophyton* spp., cause superficial hair, nail, and skin infections with subsequent hair and nail loss, rash, and pruritis. *Trichophyton indotinea* (formerly named *Trichophyton mentagrophytes* type VIII) is a newly described hypervirulent species that causes extensive, severe pruritic infections, often associated with extreme physical discomfort (Figure 1).<sup>2</sup>

## 2 Tinea corporis and cruris are typically treated with topical azoles or terbinafine, to which *T. indotinea* is often resistant<sup>2,3</sup>

Oral fluconazole or terbinafine are also commonly ineffective.<sup>3</sup> Resistant dermatophytes, including *T. indotinea* infections, have been successfully treated with oral itraconazole, although longer courses or higher doses may be needed than for nonresistant dermatophytes.<sup>3,4</sup>

## 3 Infection by *T. indotinea* should be suspected in patients with travel history to South Asia or treatment-resistant tinea

An ongoing epidemic of recalcitrant *T. indotinea* dermatophytosis in India is spreading globally; travel-associated cases have been identified in Canada.<sup>2,5</sup> However, not all patients have a history of travel, and documented transmission within North America has also been described.<sup>1</sup>

## 4 *Trichophyton indotinea* spreads directly through contact with affected humans or indirectly via contaminated items (e.g., towels, linens)<sup>3,5</sup>

Assessment of travel and exposure history, including sexual exposure, may help facilitate early diagnosis.<sup>5</sup>

## 5 Clinicians should send skin scrapings (and hair or nail samples, if indicated) for fungal culture<sup>5</sup>

Molecular methods are required for definitive, species-level identification; samples may need to be sent to a specialized reference laboratory.<sup>1</sup> Suspicion for *T. indotinea* should be indicated on requisitions to ensure laboratories are alerted and *Trichophyton* spp. are identified to the species level. Antifungal susceptibility testing is not routinely performed on filamentous fungi; consultation with a microbiologist may be necessary.

### References

1. Caplan AS, Chaturvedi S, Zhu Y, et al. Notes from the Field: first reported U.S. cases of tinea caused by *Trichophyton indotinea* — New York City, December 2021–March 2023. *MMWR Morb Mortal Wkly Rep* 2023;72:536-7.
2. Gupta AK, Venkataraman M, Hall DC, et al. The emergence of *Trichophyton indotinea*: Implications for clinical practice. *Int J Dermatol* 2023;62:857-61.



Figure 1: Tinea corporis infection caused by *Trichophyton indotinea*.

3. Uhrlaß S, Verma SB, Graser Y, et al. *Trichophyton indotinea* — an emerging pathogen causing recalcitrant dermatophytoses in India and worldwide — a multidimensional perspective. *J Fungi (Basel)* 2022;8:757.
4. Khurana A, Agarwal A, Agrawal D, et al. Effect of different itraconazole dosing regimens on cure rates, treatment duration, safety, and relapse rates in adult patients with tinea corporis/cruris: a randomized clinical trial. *JAMA Dermatol* 2022;158:1269-78.
5. Posso-De Los Rios CJ, Tadros E, Summerbell RC, et al. terbinafine resistant *Trichophyton indotinea* isolated in patients with superficial dermatophyte infection in Canadian patients. *J Cutan Med Surg* 2022;26:371-6.

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