HHS Public Access

Author manuscript

J Am Acad Dermatol. Author manuscript; available in PMC 2025 January 01.

Published in final edited form as:

J Am Acad Dermatol. 2025 January ; 92(1): e11–e12. doi:10.1016/j.jaad.2024.06.109.

Response to "Clinico-mycological and therapeutic updates on cutaneous dermatophytic infections in the era of *Trichophyton indotineae*"; Focus on griseofulvin

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Keywords

antifungal resistance; griseofulvin; itraconazole; terbinafine; topical antifungals; Trichophyton indotineae

To the Editor:

We read with great interest the article "Clinico-mycological and therapeutic updates on cutaneous dermatophytic infections in the era of *Trichophyton indotineae*."[1] The authors provide a thorough review of this dermatophyte, from its spread to clinical characteristics, antifungal response, and treatment strategies.[1] *T indotineae* is present globally[1-3] and is spreading outside of previously known endemic areas.[4] Thus, dermatologists should be

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Conflicts of interest
None disclosed.

Disclaimer: The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the CDC.

Patient consent: The patient provided written, informed consent to use clinical photographs for publication purposes. Consent is on file with authors.

This activity was reviewed by CDC and was conducted consistent with applicable federal law and CDC policy (for example, 45 C F R. part 46, 21 C F R. part 56; 42 U S C. §241(d); 5 U S C. §552a; 44 U S C. §3501 et seq).

aware of treatment challenges and limitations in current treatment data. As Khurana et al state, data on treating *T indotineae* are largely drawn from isolates collected from patients in India.[1] Additional work is needed to confirm optimal treatment strategies in geographically diverse settings. In particular, Khurana et al do not recommend griseofulvin for *T indotineae* considering poor response and elevated griseofulvin minimum inhibitory concentrations (MICs) values in Indian isolates.[1] However, considering the challenges with itraconazole (eg, pharmacokinetic challenges and adverse events), the dearth of alternative treatment options, and potential geographic variability in susceptibility patterns,[5] griseofulvin may merit consideration in select circumstances.

We and others recently reported on the first US-based cohort of patients with *T indotineae*, correlating clinical response to antifungal susceptibility testing and terbinafine resistance-conferring mutations in the squalene epoxidase gene.[3] Five patients were treated with griseofulvin. One was cured at a dose of 5 mg/kg/day and one was improving at the time of publication. Doses and durations of griseofulvin therapy for other patients were not reported.[3] Griseofulvin MIC values were not predictive of clinical response.[3] Herein, we describe an additional patient treated with griseofulvin. A male in his 60s who failed multiple extended courses of oral terbinafine 250 mg daily was referred for a chronic, pruritic, annular, scaly plaque on the buttocks (Fig 1). Potassium hydroxide preparation confirmed fungal hyphae. A culture identified *T mentagrophytes*, subsequently confirmed as *T indotineae*. Terbinafine MIC value was >128 μg/mL, and griseofulvin MIC value was 4 μg/mL. Squalene epoxidase gene analysis revealed an amino acid substitution at position 397 (F397 L). Ticagrelor, a concurrent and necessary cardiac medication, carried a risk for a severe drug interaction with itraconazole.

After 20 weeks of griseofulvin 250 mg twice daily (7 mg/kg/day) with initial intermittent adherence for 4 weeks, repeat examination revealed near complete resolution of tinea corporis (Fig 2). Laboratory data revealed no liver or renal abnormalities and a chronic, stable anemia. The patient was concomitantly treated with ciclopirox, a topical antifungal, for the last 8 weeks.

Moving forward, additional data from multiple geographic locations may shed new information describing geographic variation of antifungal responses in *T indotineae*. Such data are also important for tracking disease epidemiology. Until these data become available, dermatologists may face situations of high-level resistance or pharmacokinetic challenges requiring alternatives to terbinafine and itraconazole. Clinical and antifungal susceptibility data on griseofulvin are limited for *T indotineae*, and no clinical breakpoints exist for antifungals in dermatophytoses. However, some patients may benefit from griseofulvin, though long durations and higher than typical doses of therapy may be required along with close monitoring.[3,5] International collaborations, which are currently under development, may offer additional insight into treatment strategies.[4]

We thank the Wadsworth Center Advanced Genomic Technologies Core for DNA sequencing and Media and Tissue Culture Core for preparing media for culturing of isolates in this study.

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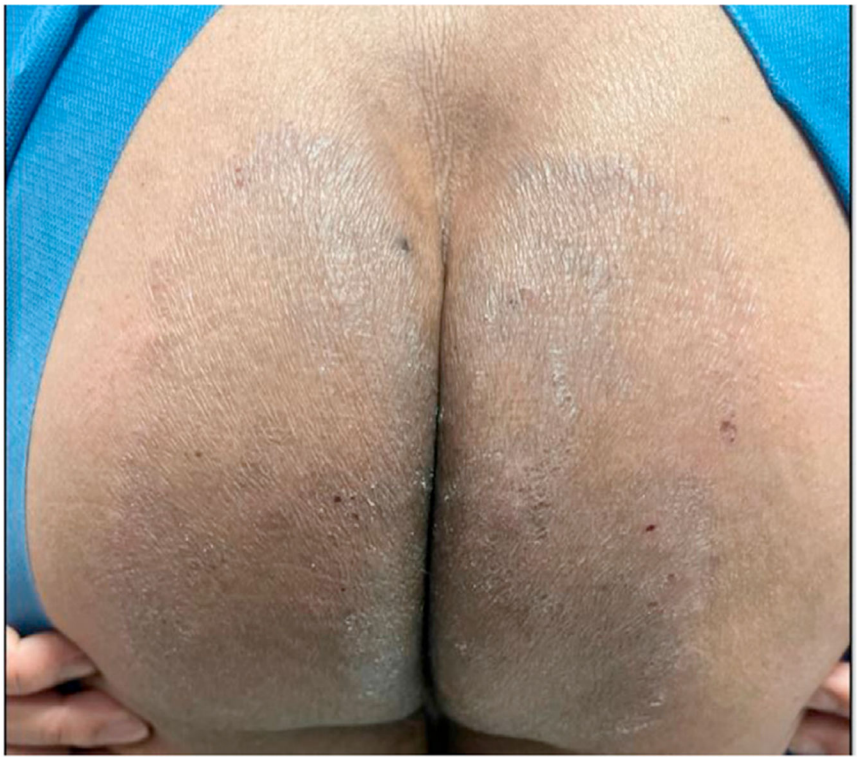

Fig 1.
Scaly, pruritic plaque of *Trichophyton indotineae* tinea corporis.

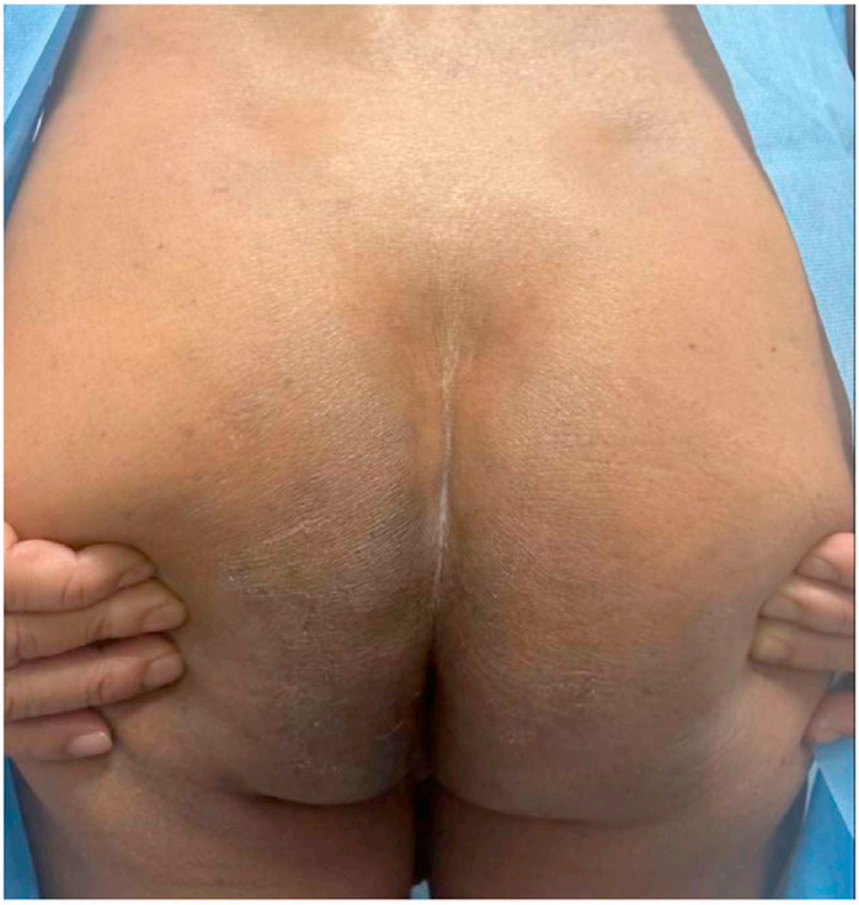

Fig 2.
Near complete resolution of *Trichophyton indotineae* tinea corporis after griseofulvin.