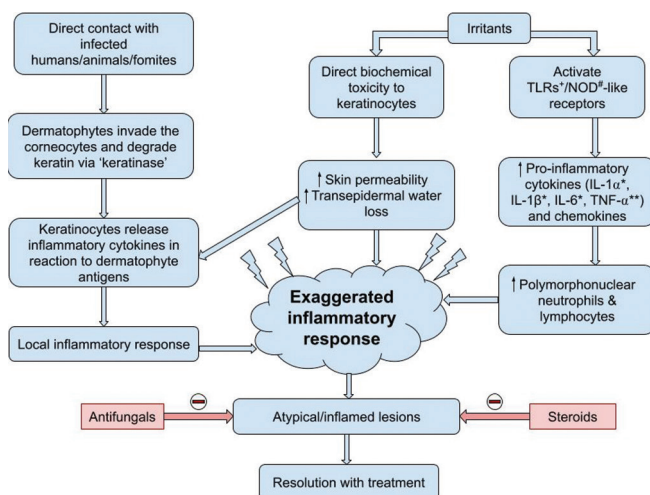


## Tinea with Irritant Contact Dermatitis—A Series of 15 Clinically Challenging Cases

Dear Editor,

Dermatophytosis is a common superficial mycosis in India, with a recent increase in incidence and a large array of atypical presentations. Irritant contact dermatitis (ICD) is characterized by erythema, blisters, pustules, hemorrhage, crusts, scales, and erosions, as well as pruritus or even pain, and is caused by frequent and repeated contact with known irritants.<sup>[1]</sup> ICD can complicate existing dermatophytosis by leading to barrier disruption and excessive inflammation, both of which can increase susceptibility to infections and result in extensive recalcitrant lesions [Figure 1]. Traditional/alternative medicine practices are still frequently employed in some rural areas inappropriately due to existing sociocultural belief systems. When performed without prior knowledge, these practices frequently endanger the patient. We hereby report 15 consenting cases of dermatophytosis complicated by irritant contact dermatitis caused by over-the-counter (OTC) irritants and share our experience in their diagnosis and management. There were ten male and five female patients. The average age was  $46.4 \pm 17.14$  years. They had all used various OTC irritants. Dithranol, in combination with salicylic acid, was the most commonly applied inciting agent. Other ingredients included coal tar, boric acid, capsaicin, and a few others. In all our patients, the predominant symptom was a burning sensation, as opposed to itching, which is the most commonly reported symptom in most

cases of dermatophytosis. Four patients reported pain in addition to a burning sensation. All the patients had hyperpigmented patches/plaques, as well as erythema, erosions, exfoliation, and scaling [Figures 2a-c]. Four patients had vesiculation and crusting [Figure 2c]. Lid edema was observed in two patients. One patient had developed lichenification as a result of chronic, long-term irritant application [Figure 2b]. Tinea corporis with cruris was the most common presentation, seen in nine of our patients. Two patients had >10% body surface area involvement and required hospitalization, one of whom had erythroderma. The generalized application of a topical preparation containing salicylic acid 1.15% + dithranol 1.15% + coal tar 5.3% might have triggered erythroderma in this patient. Branching septate hyphae were demonstrated by KOH (potassium hydroxide) mount in all our patients. Due to the severity of ICD, four of our patients received symptomatic anti-inflammatory management with a short course of topical corticosteroids, after which the steroids were tapered and stopped, and antifungal treatment was initiated. Only one patient with erythrodermic tinea required systemic corticosteroids for two days, in addition to the aforementioned treatment. The remaining eleven patients received only topical and systemic antifungal therapy, and they had a significant improvement. Only four patients from our study returned for a two-week follow-up and showed a considerable reduction in erythema and pain. The others did not appear for follow-up. In developing countries such as India, a nonchalant attitude toward seeking treatment, coupled with lax drug regulatory policies, results in the unrestrained use of irrational OTC medications. Numerous steroid combination creams and irritants are easily available OTC in India, are less expensive, and provide rapid symptomatic relief due to their anti-inflammatory properties. These medicines are recommended by quacks, paramedics, general practitioners, pharmacists, family, and



**Figure 1:** Blue boxes illustrate steps in the pathogenesis of the combined effect of dermatophytosis and irritant contact dermatitis. Brown boxes illustrate the treatment offered to our patients—topical steroids were given for 5 days, tapered, and stopped in four patients, followed by initiation of antifungal therapy. However, in other 11 patients, only antifungals were given. \* TLR—toll-like receptor, # NOD—nucleotide-binding oligomerization domain, \* IL—interleukin, \*\* TNF—tumor necrosis factor



**Figure 2:** (a) Blue arrows indicate the presence of erosions (b) Pink arrow indicates lichenification due to chronic application of an irritant (c) Yellow arrow indicates scaling. Green arrow indicates crusting. Purple arrow indicates erythema and brownish discoloration due to the application of an irritant

friends without adequate knowledge about the diagnosis and management of dermatophytosis, as in our case series. Patients who achieve some response tend to use these products indefinitely and repetitively in case of recurrence.<sup>[2]</sup> We encountered lichenification as an interesting observation in one of our patients as a result of chronic irritant use. Dabas *et al.* found that 14.7% of patients had used preparations containing salicylic acid, lactic acid, dithranol, coal tar, and urea in their cross-sectional study.<sup>[3]</sup> Singh *et al.* discovered that 3.85% of patients used indigenous remedies and preparations containing coal tar, anthralin, and salicylic acid at the time of presentation.<sup>[4]</sup> The most frequently implicated irritant in our study was dithranol with salicylic acid. All our patients were advised to refrain from using topical dithranol-containing medications in the future. The diagnosis was challenging in our series because the lesions mimicked eczema, contact dermatitis, insect bite reactions, photo-contact dermatitis, polymorphic light eruptions, lichen simplex chronicus, and idiopathic erythroderma. Hence, whenever a patient presents with an intense burning sensation, atypical clinical features, and inflammation that is out of proportion to the classic features seen in tinea cases, we must exercise a high index of clinical suspicion. The mainstay of management in our patients was the judicious use of a short course of topical steroids under supervision, followed by appropriate antifungal treatment. Topical steroids were required to suppress the acute irritant reaction, even though there is a risk of developing recalcitrant tinea with their use. Management may require oral anti-inflammatory agents, and the use of steroids may be avoided unless absolutely necessary. With this report, we would like to propose that public awareness must be raised not only for irrational OTC topical steroid use,<sup>[5]</sup> but also for inappropriate usage of irritants.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published, and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

## Abarna Rajagopal, Shankar Bharathi Ashwini, P. S. Subramanian Ranugha, Garehatty R. Kanthraj

Department of Dermatology, Venereology and Leprosy, JSS Academy of Higher Education and Research, (Deemed to be University), JSS Medical College and Hospital, Mysuru, Karnataka, India


### Address for correspondence:

Dr. Garehatty R. Kanthraj,  
Department of Dermatology, Venereology and Leprosy, JSS Medical College and Hospital, JSS Academy of Higher Education, (Deemed to be University), Mysuru - 570 004, Karnataka, India.  
E-mail: kanthacad@yahoo.com

### References

- Novak-Bilić G, Vučić M, Japundžić I, Meštrović-Štefekov J, Stanić-Duktaj S, Lugović-Mihić L. Irritant and allergic contact dermatitis - skin lesion characteristics. *Acta Clin Croat* 2018;57:713-20.
- Patel K, Nixon R. Irritant contact dermatitis - a review. *Curr Dermatol Rep* 2022;11:41-51.
- Dabas R, Janney MS, Subramaniyan R, Arora S, Lal VS, Donaparthi N. Use of over-the-counter topical medications in dermatophytosis: A cross-sectional, single-center, pilot study from a tertiary care hospital. *Indian J Drugs Dermatol* 2018;4:13-7.
- Singh BS, Tripathy T, Kar BR, Ray A. Clinicomycological study of dermatophytosis in a tertiary care hospital in eastern India: A cross-sectional study. *Indian Dermatol Online J* 2020;11:46-50.
- Rengasamy M, Shenoy MM, Dogra S, Asokan N, Khurana A, Poojary S, *et al.* Indian association of dermatologists, venereologists and leprologists (IADVL) task force against recalcitrant tinea (ITART) consensus on the management of glabrous tinea (INTACT). *Indian Dermatol Online J* 2020;11:502-19.

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