

Salicylic acid peeling in dermatophytosis: An unjustifiable therapy

Sir,

We read with interest the article published by Saoji and Madke which discusses the efficacy of salicylic acid in the treatment of dermatophytosis.¹ However, we would like to put forward our opinions and concerns on the role of salicylic acid in this notoriously recalcitrant condition:

1. Dermatophytosis has acquired an epidemic-like magnitude in the present times.² The prevalence of the disease is reported to be as high as 61.5% in some parts of the country.³ Therefore, to address the management of the situation, if a study is conducted, a properly calculated sample size is quintessential so that the external validity of the results of the study holds significance. Authors have recruited only 35 patients in the study, which we believe is much less than what it should have been.
2. Authors mention that 36% of study participants developed clinical and microbiological recurrence within a period of four weeks. We believe that this is a big number, considering the very small sample size. Moreover, recurrent dermatophytosis refers to reoccurrence of glabrous tinea after four weeks of stopping treatment following clinical cure.⁴ In the present study, the duration of follow-up was only four weeks, which proves that salicylic acid peel is not at all adequate for the management of dermatophytosis (since the cases showed reoccurrence) within such a short period.
3. Salicylic acid 30% is considered to be a superficial chemical peeling agent, which does not penetrate the skin beyond stratum corneum (or granulosum at the most). Spores of dermatophytes are known to reside within the hair follicles, including the vellus hair, which is responsible for non-response to conventional therapy. Infection by non-anthropophilic dermatophytes, previous corticosteroid therapy and excoriation is known to be some of the risk factors behind the involvement of vellus hair.⁵ The involvement of hair shafts in tinea corporis is fairly common. In fact, Patil *et al.* reported

that the prevalence of ectothrix form of infection is 87.2% ($n = 108$, Gomori methenamine silver stain).⁶ Besides, dermatophytes can affect the keratinised portion of the hair (i.e., Adamson's fringe) and involvement of hair shafts contributes to the chronicity of dermatophyte infection.⁷ In this scenario, prescribing salicylic acid as a standalone therapy in dermatophytosis lacks scientific rationale. In our opinion, treatment with salicylic acid peel is somewhat analogous to patients' self-medication of tinea with a well-known proprietary formulation of dithranol (salicylic acid 1.15% w/w + dithranol 1.15% w/w + coal tar 5.3% w/w). Subsequently, patients develop intense irritant contact dermatitis and the epidermis of the affected area is exfoliated in the next 7-to-10 days. One could expect a clearance of dermatophyte infection, but most of the cases go on to recur. Of note, the foci of recurrence are often folliculocentric, highlighting the involvement of hair shafts in chronic cases. In addition, many times, we observe erosions in this kind of irritant contact dermatitis, indicating complete loss of epidermis. If the dithranol formulation cannot achieve clearance, we should not expect clearance with superficial peel, like that with salicylic acid 30%.

4. Inadvertent use of topical steroid-antifungal preparation has accelerated the on-going tinea pandemic leading to recalcitrant lesions, atypical presentation (tinea pseudoimbricata) and resistance.⁸ If the practice of salicylic acid peeling for dermatophytoses is adopted by unqualified practitioners, the consequences would be detrimental.
5. The methodology adopted by the authors to conduct the study is not clear. Out of the cohort of 35 patients in the present study three reported no previous therapeutic intervention. Denying these treatment-naïve patients the standard first-line therapy does not seem to be ethical. Besides, among the patients recruited, clinical resistance

How to cite this article: Das A, Kumar P, Sil A. Salicylic acid peeling in dermatophytosis: An unjustifiable therapy. Indian J Dermatol Venereol Leprol 2022;88:648-9.

Received: September, 2021 Accepted: September, 2021 EPub Ahead of Print: October, 2021 Published: August, 2022

DOI: 10.25259/IJDVL_878_2021 PMID: 34672481

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was noted to terbinafine in seven, to itraconazole in one, while the rest reported recurrences after initial improvement with antifungal treatment. However, the authors do not specify if any of these patients fulfilled the definition of chronic and recurrent dermatophytosis.⁴ Given this background, the authors could have rather explored the role of salicylic acid in chronic, resistant and recalcitrant dermatophytoses, where all standard therapeutic options would have been exhausted.

Therefore, although keratolytic agents like salicylic acid have been reported to be useful as an adjuvant therapy in dermatophytoses, recommending them as standalone therapeutic agents is questionable.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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Authors' reply

Sir,

We have read the comments made by the authors¹ regarding our paper published in *IJDVL*.² We would like to offer constructive rebuttal to the issues raised by the authors:

Salicylic acid peel as a therapeutic option in the treatment of dermatophytosis was a new idea and we wanted to assess the safety and efficacy for the same. The authors decided to conduct a pilot study to test the safety and efficacy. Usually, pilot studies are conducted on a small sample size of patients (30–50).³

Recurrences in dermatophytosis are a common phenomenon seen with all modalities of therapy and not only with salicylic acid peel. It is well-known that to prevent recurrence, long-term antifungals (systemic or topical or combination) are required. Oral itraconazole therapy is not immune from recurrence once it is stopped; however, it does not mean that itraconazole therapy is not effective against dermatophytes.

Long-term treatment is advised by most experts to prevent recurrence. A treatment which leads to clearance of fungus in a short period will certainly prevent the recurrence if used for long-term. Salicylic acid peel resulted in fungal clearance even when systemic antifungal drugs (resistant cases) failed in clearing the fungus.

Involvement of the vellus hair and its possible role in recurrence of dermatophytosis has been dealt in our paper and needs no further consideration. Salicylic acid, being a lipophilic agent, penetrates hair follicles and may help in exfoliation of infundibular keratinocytes along with fungal elements. We think that comparing salicylic acid peel with a proprietary anthralin formulation is totally unjustified. We have huge cumulative experience of salicylic acid peel with regard to its safety. Salicylic acid peel, being a self-neutralising peel, causes more controlled peeling of epidermis without causing any undesirable irritant reaction in contrast to florid irritant dermatitis after application of

How to cite this article: Saoji VA, Madke B. Authors' reply. *Indian J Dermatol Venereol Leprol* 2022;88:649-50.

Received: September, 2021 **Accepted:** September, 2021 **EPub Ahead of Print:** January, 2022 **Published:** August, 2022

DOI: 10.25259/IJDVL_919_2021 **PMID:** 35146982

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