

Scabies: Its Treatment Futile

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Abstract

Introduction: Scabies is a ectoparasitic infestation caused by the mite *Sarcoptes scabiei*. Its manifestation includes itching, excoriations, papular lesions and burrows. It is highly contagious, affecting usually all the members of a family staying together or inmates of a hostel. It is convenient to treat the affected ones but treating all the contacts is difficult, resulting in reinfection.

Aims and Objectives: In this study we try to evaluate if application of topical scabicial creams such as permethrin 5% is effective in curing the disease.

Materials and Methods: A total of 56 patients who presented to our Out patient department were included for the study. They were prescribed permethrin 5% cream. Advice regarding the proper application of the cream and treatment of contacts was given. They were followed up at the OPD at 2 weeks, 1 and 2 months for assessment of response.

Results: Our study showed that although effective initially in a significant number of patients, there was a considerable relapse of the infestation. Only 11 patients (19.64%) showed complete response with failure in the rest (80.36%).

Conclusion: Although scabies is a common parasitic infestation, its treatment is complex. The difficulty in treating scabies is identification and treatment of all of the contacts, many of whom are asymptomatic. The average cost of permethrin 5% cream is around Rs 90, the cost involved in treating all the contacts such as family members and inmates in hostels would be far more than what the common man can afford. This makes the treatment of scabies unfeasible especially in developing countries like India. Hence scabies which is a self limiting infestation, is best treated symptomatically.

Key words: Infestation, Mite, Parasite, Permethrin 5%, Scabies

INTRODUCTION

Scabies is a highly infectious parasitic infection caused by the mite *Sarcoptes scabiei* var. *hominis*. It spreads mainly by direct skin-to-skin contact. Worldwide, incidence is about 300 million (Maan *et al.*, 2015).^[1] It occurs mainly in settings of overcrowding such as hostels, bunkers, and shelter homes. Other predisposing factors include poverty and poor nutritional status (Shimose and Munoz-Prize, 2013).^[2] It is mainly characterized by severe itching, multiple excoriated papules, and typical burrows. It has an incubation period of 1 month (Shimose and Munoz-Prize, 2013).^[2] Diagnosis is mainly clinical although the gold standard for diagnosis would be the

identification of mites, eggs, or feces in skin scrapings of skin or identification of burrows (Andrews *et al.*, 2009).^[3] The mainstay of treatment is topical scabicial agents. Although there are a number of topical scabicial agents, the most effective one is considered to be topical permethrin (Karthikeyan, 2005).^[4] Often, overlooked is the high contagiousness of the infestation, resulting in the presence of asymptomatic persons who can again reinfect the treated individual if the carriers themselves were not treated (Golant and Levitt, 2012).^[5] Hence, the goal of treatment can be achieved if all the contacts are treated. In this study, we try to evaluate if the standard regime for scabies, which is topical application of permethrin cream, is effective in curing the disease.

MATERIALS AND METHODS

A total of 56 patients were included in the study which included men, women, and children. The study was conducted at Ganga skin clinic between February 2017 and July 2017. They were evaluated if they were infected with the scabies mite based on the following criteria:

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The presence of itching with one of the features:

- Multiple excoriations and papular lesions over the body
- Burrows over the interdigital spaces
- Nocturnal itching
- Involvement of other family/roommates

Exclusion Criteria

Patients who were allergic to permethrin, pregnant and lactating patients were excluded from the study.

The patients were given permethrin 5% cream and advised to apply it topically all over the body below the neck. The application must be a single overnight application followed by taking a bath the next morning. All contacts including family members and roommates were advised to take the same treatment. They were to be advised to wash their clothes in warm water and not to wear the same clothes the next day.

Follow-up

All patients, irrespective of resolution of symptoms, were asked to report to the outpatient department after 2 weeks, 1 month, and 2 months for follow-up. The patients were evaluated for resolution of symptoms and signs. Those patients who still had symptoms were asked to reapply permethrin cream for a 2nd time at the 2nd week. Further, follow-up was done at the end of 1 and 2 months.

RESULTS

A total of 56 patients were included for the study, of which 36 patients (64.28%) were male and 20 patients (35.71%) were female ($P < 0.01$). The age distribution is shown in Table 1.

The majority of the patients were below 50 years (92.83%) ($P < 0.01$) with maximum in the age group of 10–20 years (32.14%). The ratio of males-to-females was 2.6:1.

Occupation and Residence

The majority of patients were students who were either residing in their homes, as hostel mates or paying guests along with other students. This was followed by housewives, office workers, coolies, and agricultural workers.

History of Involvement of Other Room/Family Members

A history of the involvement of other family members was seen in 15 patients (26.78%). Similarly, the involvement of other members in hostels or as roommates in paying guest was seen in 20 patients (35.71%).

Response to Treatment

A complete resolution of symptoms after 2 weeks was seen in 15 patients (26.78%). Forty-one patients (73.21%)

continued to have generalized itching ($P < 0.01$). They were prescribed another course of topical permethrin 5% on the 2nd week. At the end of 1 month, 20 patients (35.71%) had persistent symptoms. At the end of 2 months, symptoms and signs of infestation were present in 45 patients (80.35%) ($P < 0.01$), complete cure was seen in only 11 patients (19.64%) [Table 2].

Compliance

Of all the 56 patients who were advised to treat their contacts either roommates, family members, or friends with similar complaints, 8 patients (14.28%) failed to do so. Of the 56 patients who were patiently told about the need to apply the cream as 1 time whole body application, 5 patients (8.92%) failed to follow the instructions and instead applied small amounts of the cream on a daily basis.

DISCUSSION

Scabies is a contagious parasitic infestation. Although there are many topical medicines for treatment, permethrin 5% is considered to be the most efficacious and most widely used modality of treatment Usha and Nair.^[6] However, considering the highly contagious nature of the disease and the presence of asymptomatic carriers, there is a high chance of reinfection. This is especially so in an Indian setting where there is a large occurrence of overcrowding, poverty, poor nutritional status, and inhygiene in houses, slums, and hostels, due to the high population density (Sharma and Singal, 2011).^[7] Our study results are contradictory to studies by Ranjkesh *et al.*^[8] who reported a cure rate of 96.8% after 2 weeks of application of permethrin 5%. It is also contradictory to other studies by Chhaiya *et al.*^[9] who reported a cure rate of 100% after 2 weekly applications of permethrin 5%. Our results at

Table 1: Age distribution

Age (years)	Number (%)
1–10	6 (10.70)
10–20	18 (32.14)
20–30	10 (17.85)
30–40	8 (14.28)
40–50	10 (17.85)
50–60	4 (7.14)
>70	Nil

Table 2: Results

Follow-up period	2 weeks	1 month	2 months
Number of patients with resolution of symptoms	15	21	11
Number of patients with persistent symptoms	41	35	45

1 week are comparable to that of Taplin and Meinking^[10] who reported 30% cure rate after a single treatment with permethrin 5%.

CONCLUSION

Our study was conducted to assess if permethrin 5% cream which is considered the first line treatment of scabies is as effective as it is claimed. Our study showed that although there was a significant improvement of symptoms after 2 weekly treatment of scabies, there was a high rate of reinfection from asymptomatic carriers.

Hence, based on the study, we suggest that a symptomatic treatment of scabies should be given such as topical application of calamine lotion or other emollients and antihistamines instead of scabicide agents. This is especially true for patients reporting from hostels and other crowded settings where it is very hard to treat all the contacts. It is also true for patients coming from poor socioeconomic backgrounds as the cost of permethrin is high.

REFERENCES

1. Maan MA, Maan MS, Sohail AM, Arif M. Bullous scabies: A case report and review of the literature. *BMC Res Notes* 2015;8:254.
2. Shimose L, Munoz-Price LS. Diagnosis, prevention, and treatment of scabies. *Curr Infect Dis Rep* 2013;15:426-31.
3. Andrews RM, McCarthy J, Carapetis JR, Currie BJ. Skin disorders, including pyoderma, scabies, and tinea infections. *Pediatr Clin North Am* 2009;56:1421-40.
4. Karthikeyan K. Treatment of scabies: Newer perspectives. *Postgrad Med J* 2005;81:7-11.
5. Golant AK, Levitt JO. Scabies: A review of diagnosis and management based on mite biology. *Pediatr Rev* 2012;33:e1-e12.
6. Usha V, Gopalakrishnan Nair TV. A comparative study of oral ivermectin and topical permethrin cream in the treatment of scabies. *J Am Acad Dermatol* 2000;42:236-40.
7. Sharma R, Singal A. Topical permethrin and oral ivermectin in the management of scabies: A prospective, randomized, double blind, controlled study. *Indian J Dermatol Venereol Leprol* 2011;77:581-6.
8. Ranjkesh MR, Naghili B, Goldust M, Rezaee E. The efficacy of permethrin 5% vs. Oral ivermectin for the treatment of scabies. *Ann Parasitol* 2013;59:189-94.
9. Chhaiya SB, Patel VJ, Dave JN, Mehta DS, Shah HA. Comparative efficacy and safety of topical permethrin, topical ivermectin, and oral ivermectin in patients of uncomplicated scabies. *Indian J Dermatol Venereol Leprol* 2012;78:605-10.
10. Taplin D, Meinking TL. Infestations. In: Schechner LA, Hansen RC, editors. *Pediatric Dermatology*. Vol. 2. New York: Churchill Livingstone; 1988. p. 1465-516.

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