

Original Research

Assessment of different treatment option for scabies

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ABSTRACT

Background: Scabies is a highly contagious skin condition caused by an infestation of the human itch mite, *Sarcoptes scabiei* var. *hominis*. The present study was conducted to assess the treatment option for scabies.

Materials & Methods: 36 patients of scabies, of either gender, above 12 years of age were divided into 2 groups of 18 each. Group I received benzyl benzoate (BB) 25% lotion, and group II received tablet ivermectin 200 µg/kg as a single dose.

Results: In group I, males were 10 and females were 8 and in group II, males were 9 and females were 9. The common clinical features were itching seen in 18 patients in group I and 17 patients in group II, sores in 7 patients in group I and 4 patients in group II and blisters, or pustules in 11 patients in group I and 14 patients in group II. Cure rate at end of one week in group I was 75% and in group II was 58%. Cure rate at the end of two weeks in group I was 94% and in group II was 100%. Cost effectiveness was INR 1100 for 75 patients in group I and INR 2500 for 58 patients in group II. Cost to treat one patient (INR) was 14.6 in group I and 43.1 in group II. The difference was significant ($P < 0.05$).

Conclusion: The first course of treatment for any scabies sufferer should be BB topically for two weeks. The next course of action for nonresponders should be oral ivermectin once a week for two weeks. Ivermectin the fastest, safer, and most effective way to treat patients, preventing further morbidity and secondary transmission.

Keywords: benzyl benzoate, ivermectin, Scabies

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INTRODUCTION

Scabies is a highly contagious skin condition caused by an infestation of the human itch mite, *Sarcoptes scabiei* var. *hominis*. These microscopic mites burrow into the skin, causing intense itching and a rash. Scabies spreads primarily through close physical contact, making it common in crowded environments such as schools, nursing homes, and dormitories.¹

The lesions, extreme pruritus, high infectivity, frequent relapses, persistence of symptoms for many days even after eradication, and resistance to standard treatment make *Sarcoptes scabiei* a highly significant disease.² The main symptoms of scabies include intense itching especially severe at night. Small red bumps, blisters, or pustules, often in a linear pattern where the mites have burrowed. Thin, irregular tracks made up of tiny blisters or bumps on the skin, indicating where mites have travelled. Sores caused by scratching, which can sometimes become infected. Common areas affected by scabies include between the fingers, wrists and elbows, armpits, waistline, thighs, genital area, nipples, buttocks, lower legs and feet.³ Scabies treatment has evolved from sulfur to permethrin and ivermectin, from Celsus to modern

medicine. Topical antiscabietics are the current treatment for scabies, and they are administered to the entire body for a predetermined amount of time.⁴ The finest antiscabietic has been the subject of research with an emphasis on safety and efficacy evidence. Since scabies affects the Indian population frequently, most of them cannot afford the most effective antiscabietic.⁵ The present study was conducted to assess the treatment option for scabies.

MATERIALS & METHODS

The present study was conducted on 36 patients of scabies, of either gender, above 12 years of age. All were informed regarding the study and their written consent was obtained. Data such as name, age, gender etc. was recorded. Patients were divided into 2 groups of 18 each. Group I received benzyl benzoate (BB) 25% lotion, and group II received tablet ivermectin 200 µg/kg as a single dose. The patients were recalled after one week for follow-up. If there were no signs of cure, the same intervention was repeated. The patients were followed up for two weeks for cure rate, and postintervention observation. Data thus obtained were

subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table: I Distribution of patients

Groups	Group I	Group II
Drug	benzyl benzoate (BB) 25% lotion	tablet ivermectin 200 µg/kg
M:F	10:8	9:9

Table I shows that in group I, males were 10 and females were 8 and in group II, males were 9 and females were 9.

Table: II Assessment of clinical features

Clinical features	Group I	Group II	P value
Itching	18	17	0.86
Sores	7	4	
blisters, or pustules	11	14	

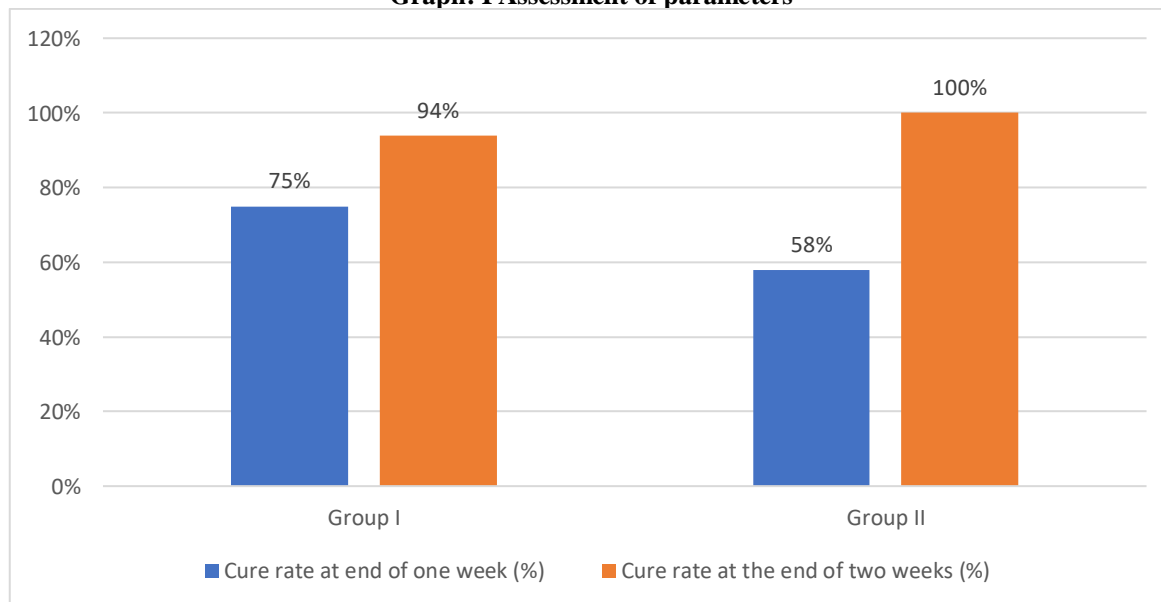
Table II shows that common clinical features were itching seen in 18 patients in group I and 17 patients in group II, sores in 7 patients in group I and 4 patients in group II and blisters, or pustules in 11 patients in group I and 14 patients in group II. The difference was significant (P < 0.05).

Table: III Assessment of parameters

Parameters	Group I	Group II	P value
Cure rate at end of one week (%)	75%	58%	0.01
Cure rate at the end of two weeks (%)	94%	100%	0.95
Cost effectiveness	INR 1100 for 75 patients	INR 2500 for 58 patients	0.03
Cost to treat one patient (INR)	14.6	43.1	0.02

Table III, graph I shows that cure rate at end of one week in group I was 75% and in group II was 58%. Cure rate at the end of two weeks in group I was 94% and in group II was 100%. Cost effectiveness was INR 1100 for 75 patients in group I and INR 2500 for 58 patients in group II. Cost to treat one patient (INR) was 14.6 in group I and 43.1 in group II. The difference was significant (P < 0.05).

Graph: I Assessment of parameters



DISCUSSION

Diagnosis is typically based on the appearance of the rash and the presence of burrows. A healthcare provider might confirm the diagnosis by scraping off a small section of the affected skin to examine under a microscope for mites, eggs, or mite feces.⁶Applying ink to the skin to highlight burrow tracks. Scabies treatment aims to eliminate the mites and alleviate

symptoms. Common treatments include permethrin cream.⁷A topical cream applied to the entire body and left on for 8-14 hours before washing off. Usually, a second treatment is necessary after a week. Ivermectin is an oral medication used in cases where topical treatments are ineffective or impractical. Over-the-counter medications such as antihistamines or topical steroids to relieve itching.^{8,9}The present study was

conducted to assess the treatment option for scabies. We found that in group I, males were 10 and females were 8 and in group II, males were 9 and females were 9. Bachewar et al¹⁰ compared three treatment modalities in scabies for safety, and efficacy. 103 participants were randomly allocated to three groups. First group received benzyl benzoate (BB) 25% lotion, second group received permethrin 5% cream, whereas third group received tablet ivermectin 200 µg/kg as a single dose. The participants were followed up for two weeks for cure rate assessment. Ivermectin showed 100% cure rate after two weeks of treatment. Permethrin decreased pruritus by 76% at the end of one week and had significantly better cure rate than ivermectin. At the end of two weeks treatment, this finding was reversed, that is, cure rate in ivermectin group was 100%. For cost-effectiveness analysis, treatment regimens were formulated hypothetically for comparison from Markov population tree for decision analysis. It was found that BB and ivermectin each consecutively for two weeks were most cost-effective regimens giving complete cure in four weeks, while ivermectin was the fastest regimen giving the same results in two weeks. We observed that common clinical features were itching seen in 18 patients in group I and 17 patients in group II, sores in 7 patients in group I and 4 patients in group II and blisters, or pustules in 11 patients in group I and 14 patients in group II. Usha et al¹¹ compared the efficacy of oral ivermectin with topical permethrin cream in the treatment of scabies. Eighty-five consecutive patients were randomized into 2 groups. Forty patients and their family contacts received 200 microg/kg body weight of ivermectin, and another 45 patients and their family contacts received a single overnight topical application of 5% permethrin cream. Patients were followed up at intervals of 1, 2, 4, and 8 weeks. A single dose of ivermectin provided a cure rate of 70%, which increased to 95% with 2 doses at a 2-week interval. A single application of permethrin was effective in 97.8% of patients. One (2.2%) patient responded to 2 applications at a 2-week interval. Permethrin-treated patients recovered earlier. We found that cure rate at end of one week in group I was 75% and in group II was 58%. Cure rate at the end of two weeks in group I was 94% and in group II was 100%. Cost effectiveness was INR 1100 for 75 patients in group I and INR 2500 for 58 patients in group II. Cost to treat one patient (INR) was 14.6 in group I and 43.1 in group II. Meinking et al¹² in their study ivermectin was administered in a single oral dose of 200 micrograms per kilogram to 11 otherwise healthy patients with scabies and to 11 patients with scabies who were also infected with the human immunodeficiency virus (HIV), 7 of whom had the acquired immunodeficiency syndrome. The patients used no other scabicides during the 30 days before ivermectin treatment or during the 4-week study period. None of the 11 otherwise healthy patients had evidence of scabies four weeks after a single dose of

ivermectin. Of the 11 HIV-infected patients, 2 had < or = 10 scabies lesions before treatment, 3 had 11 to 49 lesions, 4 had > or = 50 lesions, and 2 had heavily crusted skin lesions. In eight of the patients the scabies was cured after a single dose of ivermectin. Two patients received a second dose two weeks after the first. Ten of the 11 patients with HIV infection (91 percent) had no evidence of scabies four weeks after their first treatment with ivermectin.

The shortcoming of the study is small sample size.

CONCLUSION

Authors found that the first course of treatment for any scabies sufferer should be BB topically for two weeks. The next course of action for nonresponders should be oral ivermectin once a week for two weeks. Ivermectin the fastest, safer, and most effective way to treat patients, preventing further morbidity and secondary transmission.

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