

A comparative study of Topical Ivermectin cream Versus Topical Permethrin with oral Ivermectin in Scabies

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Abstract:

Background -Scabies, an intensely pruritic ectoparasitic skin infestation, affects over 130 million people and hampers quality of life. Permethrin is considered the most effective topical treatment for scabies. Ivermectin is the only oral alternative and can also be applied topically.

Aim -To assess and compare the efficacy of topical ivermectin and topical permethrin with oral Ivermectin for scabies

Method -We included non randomized controlled trials that compared topical Ivermectin with Permethrin and oral ivermectin against each other for people with scabies of either sex, however pregnant females and children below 5 years were excluded from study. Total of 60 patients with scabies were part of study out of which 30 patients were prescribed topical 1% Ivermectin (group A) and 30 patient were prescribed Permethrin 5% (group B) topical with oral Ivermectin (at the dose of 200 mcg/kg)

Result- We found that no participant in the Ivermectin topical (group A) or systemic Ivermectin and Permethrin (group B) stopped participating in the study because they experienced an adverse event.

We found that topical Ivermectin 1% cream applied once in active disease provided same relief as of compared to Permethrin 5% topical with oral Ivermectin (200mcg/kg dose) however in some cases of group B had to reapply permethrin more than once which prolonged the course of disease, was costlier and had to bear burden of risk of extra side effects of oral ivermectin and on the other side in group A patients treatment was quicker, cost effective and lesser risk of side effects.

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I. Introduction

Scabies is an intensely itchy parasitic infection of the skin that is caused by the sarcoptes scabiei mite. It occurs worldwide, but is particularly problematic in areas of poor sanitation, overcrowding, and social disruption. The global prevalence of scabies ranges from 0.2 % to 71.4 %, with large variations in geographical regions. Highest scabies prevalence is noted in Pacific and Central/South American regions. Children and adolescents are particularly affected.

Scabies tends to occur in cyclical epidemics, particularly within institutional living situations such as nursing homes, or the army. In resource poor communities the disease is endemic in many areas. Scabies infestation represents a considerable burden of ill health in many communities, and although the disease is rarely life-threatening, it causes widespread debilitation and misery. A cost effective short term and easy to follow treatment is necessary to ease the extent of burden in our country.

II. Methodology

In this study all patients attended outpatient department of dermatology of our institute were included. pregnant females and children less than 5 years were excluded. This study was conducted from November 2017 to January 2018 with prior consent from all patients. The study was approved by the institutional ethical committee. Total of 60 patients, Diagnosis was made on the basis of clinical examination and history of itching (particularly if contacts are also affected). 30 patients were prescribed topical 1% Ivermectin (group A) with antihistaminic and topical mometasone and 30 patient were prescribed Permethrin 5% (group B) topical with oral Ivermectin (at the dose of 200 mcg/kg) along with antihistaminic and topical mometasone.

III. Results

It was observed that all patients with scabies were treated by the single application of topical Ivermectin overnight which is cost effective, easy to follow and less toxic than oral Ivermectin which was prescribed in group B along with topical Permethrin.

IV. Discussion

This study was planned to evaluate the efficacy and safety of topical ivermectin and compare it with oral ivermectin and topical permethrin. Topical ivermectin as 1% cream was as effective as 5% permethrin and was more cost effective than oral Ivermectin for the large population.

In the present study, decline in clinical symptoms after treatment with oral Ivermectin and topical permethrin was as equal as with topical Ivermectin at the end of 2 weeks. Our findings has limitations as long term follow up was not done.

Clinical cure rate for oral ivermectin with 2 doses was equal at the end of second week. Bachewar *et al*, reported 100% cure rate with 2 doses of oral ivermectin at the end of 2 weeks¹ While Fatimata *et al*, reported much lower cure rate of 24.6% at the end of second week with single dose². Thus, repeating treatment every week for 2 weeks achieves higher cure rate with oral ivermectin. However, clinical cure with topical ivermectin is seen earlier as in case of topical permethrin. As ivermectin is not ovicidal, a double oral dose of 200 mcg/kg body weight at 2 weeks interval may be required to eradicate the different stages of the parasites.

As far as pruritus is concerned our study suggests that topical ivermectin and permethrin rapidly cured disease and hence led to rapid improvement in pruritus compared to oral ivermectin. A previous study also showed that oral ivermectin was less effective in relieving pruritus as compared to Permethrin¹. However oral antihistaminic agents were also required during the course of treatment. Topical ivermectin showed great and faster relief in pruritus, it will also reduce the requirement of anti-histaminic.

There was difference in effectiveness of topical permethrin and topical Ivermectin, topical Permethrin was required a second application even along with a oral ivermectin. The faster relief with topical ivermectin would reduce the number of follow up visits required, thus improving compliance and reducing the cost. In both groups, no severe/serious/minor adverse events were observed. No adverse events were observed in topical ivermectin group.

A few small studies have reported efficacy of topical ivermectin in scabies. In a study of 50 patients, all the patients were cured clinically and parasitologically within 48 hours after a single application. Yerham *et al*, reported a study of 10 patients with uncomplicated scabies, in which marked improvement was seen in the condition of the patients within 2 or 3 days of the first treatment, and clinical cure occurred after 2 or 3 days of second treatment with topical 1.8% ivermectin cream³. This comparative study shows that compared to oral Ivermectin and topical Permethrin, topical ivermectin is cost effective, faster curing clinical symptoms, better compliance and safer.

LIMITATION – long time follow up not done

CONCLUSION – topical Ivermectin 1% when used alone for once stat application was sufficient for the treatment of scabies which cut short the duration of treatment and was also cost effective and less toxic as compared to oral Ivermectin, however topical Permethrin is still treatment of choice in pregnancy and children below 5 years.

References

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