
Treatment of Pityriasis Versicolour with Topical 15% Zinc Sulfate Solution

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Abstract

Background: Pityriasis versicolour is a common skin problem of cosmetic importance among young individuals. Many modality of the treatment have been used to control this disease, but often end with relapse. Zinc sulfate had been proven to have antifungal activity invitro study. Still we are searching for a new therapeutic agent like zinc sulfate.

Objective: The aim of the present work is to assess the therapeutic effectiveness of topical 15% zinc sulfate solution in treatment of tinea versicolor.

Patients& Methods: This single blinded controlled therapeutic trail was carried out in Department of Dermatology and Venereology - Baghdad Teaching Hospital, during the period from May 2004- Sept. 2004. Patients consisted of 60 person (40 males&20 females) and their ages ranged from 15 – 45 years with a mean \pm SD of 32 ± 3 years, while the duration of the disease was 2-30 (5.18 ± 4.77) months.

These patients were enrolled in this study and were divided into two groups:-

Group A: Thirty patients (16 males and 14 females) were treated with topical 15% zinc sulfate solution once daily and examine every week for three weeks and followed up for one month without therapy. Mycological and Wood's light examination were performed to establish diagnosis before therapy and repeated every week to asses the response to therapy.

Group B: Thirty patients (24 males and 6 females) were treated with distilled water as a placebo treated group and with a similar manner in group A.

Results: The result of this study revealed that all patients in group A showed clinical and mycological clearance at the end of 3rd week of treatment while group B showed no clinical and mycological recovery at the end 3rd week of treatment program. No side effects were recorded apart from mild itching in few patients during the first days of therapy.

Conclusion: Topical 15% zinc sulfate solution is an effective, new, mode of therapy which is simple, non costly treatment option for pityriasis versicolour with negligible side effects.

Keyword: pityriasisr versicolour, topical zinc sulfate solution.

Introduction

Pityriasis versicolour is one of the common skin problems of cosmetic importance all over the world that affects mostly young adults. It is mild, chronic, infection of the skin caused by normal yeast flora of the skin called *pityrosporum orbiculare*, and characterized by discrete or concrenent, scaly, discolored or depigmented areas mainly on the upper trunk [1-7].

Many modalities of treatment have been used in the treatment of pityriasis versicolour both topical and systemic antifungal like imadzoles, selenium sulfide shampoos and lotions, ciclopirox olamine, zinc pyrithione shampoos, sulfur preparations ,salicylic acid preparations, propylene glycol lotions, tretinoin cream (Retin-A), terbinafine solution & benzyl peroxide have been used but often end with relapse(40-60%)^[2,5-8].

Zinc sulfate has been used successfully both as topical and systemic therapy in the treatment of many skin diseases like warts, basal cell carcinoma, cutaneous leishmanesis and Behcet's disease⁽⁹⁻¹⁶⁾. Most recently zinc sulfate has been shown to have invitro antifungal activity^[17].

The aim of the present work is to evaluate its antifungal activity in treatment of tinea versicolour.

Patients & Methods

This single blinded controlled therapeutic study was conducted in Department of Dermatology &Venereology - Baghdad Teaching Hospital, during the period from May 2004- Sept.2004.

Sixty patients were included in the present work (40 were males and 20 were females) and their ages ranged from 15 – 45 years with a mean \pm SD of 32 ± 3 years, while the duration of the disease was 2-30 (5.18 ± 4.77) months.

Full history was taken from each patient regarding age, sex, duration of pityriasis versicolour and any previous treatment used for it.

Physical examination was done to confirm the clinical diagnosis and the distribution of rash.

The treatment was explained to patients and their consents were given for the treatment.

A solution of 15% w/v zinc sulphate was prepared by dissolving 15 grams of zinc sulphate (ZnSo4 7H2O from British Drug house, Pool,

England) in 100cc of distilled water. Control solution contains distilled water only.

All patients were selected and divided into two groups:

Group A:

Thirty patients (16 males and 14 females) were treated with topical 15% zinc sulfate solution once daily and examined clinically every week for 3 weeks. Also mycological assessment by scrapings of the scales that have been mounted in 15% KOH, and examined for the presence of hyphae and spores before therapy to establish the diagnosis and every week after therapy. Followed up for all patients was performed every two weeks for one month without therapy. Wood's light was used to confirm the diagnosis and to assess the clearance of the rash after treatment.

Group B:

Thirty patients (24 males and 6 females) were treated with distilled water as a placebo control group and in a similar manner to group A.

All patients included in this work were not receiving any modality of therapy at least 2 months before the present trial. Also all patients were apparently have no systemic illness like diabetes mellitus. The patients were asked if they complain of any side effects during and after the course of treatment.

Results

In group A: the clearance of the rash was started 5 days after therapy until complete clearance at the end of the course of the treatment.

Regarding mycological examination, hyphae & spores were numerous at the zero time before therapy while there were few spores and macerated hyphae after first week then they were completely vanished after the second and third weeks of therapy.

In Group B: Showed no clinical and mycological recovery in any patient for three weeks of treatment and one month after cessation of therapy.

No side effects were recorded apart from mild itching and post inflammatory hypopigmentation in few patients that had been seen in the first few days of this therapeutic intervention.

Further one month follow-up every two weeks without treatment, showed no relapse of the rash in any case. Also wood's light examination confirmed the recovery from the illness.

*Text so clear, no need to any table.

Discussion

Tinea versicolour is a common health problem encountered in daily practice, and although rarely cause harm to the patients, but for others it is a very disfiguring disease^[1-7].

The treatment is often prolonged and costly with a high recurrence rate. Therapy include topical and or systemic drugs including Azole, group, allyline and topical tretention cream (Retin-A)^[2,5-8].

Recently we conducted invitro study that showed zinc sulfate had antifungal activity against many dermatophytes species^[17]. These finding encouraged to design this present work. So the present study had shown a high recovery rate after 3 weeks of therapy.

This new treatment is simple as used once a day with short course of therapy, no side effects and non costly for the patients.

Further study will be arranged to have a wide experience with this new mode of therapy.

To the best of our knowledge, this is the first study showing the effectiveness of topical 15% zinc sulfate solution in treatment of tinea versicolour.

In conclusion topical 15% zinc sulfate solution is an effective, new, non costly therapeutic agent with no side effects.

References

- 1-Sharquie KE, Al- Rubyae MG & Al- Rawi JR. Is pityriasis versicolour a contagious disease? J Basic Med Sciences. 2001; 1(1, 2): 12-13.
- 2-Habif TP. Superficial Fungal Infections In: Clinical Dermatology, a Color Guide to Diagnosis and Therapy.4th ed. Mosby-Year Book; Inc.2004; 13:409-456.
- 3-Sharquie KE, Al- Rubyae MG & Al- Rawi JR Prevalence of *pitrosporom orbiculare* on normal skin of Iraqi healthy people. Iraq J comm Med; 2001; 14(1): 10-13.
- 4- Roberts SOB. *Pityrosporom orbiculare*: Incidence and distribution on clinically normal skin. Br. J. Dermatol. 1997; 81: 264-9.
- 5-Hay RJ & Moore M. Mycology In: Textbook of Dermatology. Champion RH, Burton-JL, Burn DA & Breath mach SM, 6th ed. Oxford Blackwell Science Lt. Editorial Office, 1998, Vol.2, 31: 1277-1376.
- 6-Odom RB, Tame WD & Berger TG. Diseases Resulting From Fungi & Yeasts In: Andrew's Diseases of the Skin: Clinical Dermatology. 9th Ed, Philadelphia, WB Saunders Company, 2000: 358-416.
- 7-Nelson MM, Martin AG & Heffeman MP. Fungal Diseases with Cutaneous Involvement, Superficial fungal infections: Dermatophytosis, Onychomycosis, Tinea Nigra, Piedra In: Fitzpatrick's Dermatology in General Medicine Freed berg IM, Eisen AZ, Wolff k, Austen KF ,Goldsmith LA & Katz SI.6th ed New York: McGraw-Hill .2003,Vol.2 ;205:1989-2034.
- 8-Sharquie KE. Treatment of tinea versicolor with tretinoin (Retin-A) cream. J Fac Med Baghdad 1991; 33:203-205.
- 9-Sharquie KE, Najim RA & Dori WS. Oral zinc Sulphate in the treatment of Behcet's disease:

- Double blind cross over study. Clin & Experimental Rheumatology J. 2004; 22:120.
- 10-Sharquie KE, Najim RA &Farajou IB. A comparative controlled trial of intralesionally-administered zinc Sulphate, hypertonic sodium chloride and pentavalent antimony compound against acute cutaneous leishmaniasis. Clin & Exp Dermatol 1997; 22:169-37.
- 11- Sharquie KE, Najim RA, Al Timimi DJ &Farjou IB. Oral Zinc Sulphate in the Treatment of acute cutaneous leishmaniasis: Clin & Exp Dermatol 2001; 26: 21-26.
- 12-Sharquie KE & Al-Nuaimy AA. Treatment of Viral Wart by Intralesional Injection of 2% Zinc Sulphate Solution. Annals Saud Med 2001; 22(1): 26-28.
- 13-Sharquie KE, Al-Nuaimy A A & Al-Shimary FA. New Intralesional Therapy for Basal Cell Carcinoma By 2% Zinc Sulphate Solution. Saudi Med J 2005; 26:359-61.
- 14-Sharquie KE, Najim RA, Farjou IB. Zinc sulphate in the treatment of cutaneous leishmaniasis an vitro and animal study. Mem Inst Oswaldo Rio de Janeiro 1998; 93(6):831-837.
- 15-Al- Gurairi FT, Al-Waiz MM, Sharquie kE. Oral zinc sulphate in the treatment of recalcitrant viral warts randomized placebo-controlled clinical trial. Br J Dermatol 2002; 146 (3): 423-431.
- 16-Al-Timimi T. Oral zinc sulphate in the treatment of genital warts. Fellowship of Iraqi Board for Medical Specializations in Dermatology and Venereology. Dissertation Scientific Committee of Dermatology & Venereology 2003.
- 17-Al-Janabi SJ. Dermatophytes Infections in Baghdad: Clinical& Labrotary Study. PhD Thesis in Microbiology & Mycology, College of Education, Baghdad University, 2006.

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