COMPARATIVE EVALUATION OF SINGLE DOSE REGIMEN WITH TWO DOSE REGIMEN OF FLUCONAZOLE IN THE TREATMENT OF TINEA VERSICOLOR : A DOUBLE BLIND PLACEBO CONTROLLED STUDY

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In a double blind randomised study to assess the efficacy of single dose fluconazole therapy, 30 patients of tinea versicolor (TV) were enrolled and were assigned into 2 groups. Group A (n= 18) received fluconazole 400 mg single dose orally and Group B (n= 12) received placebo. At the end of 2 weeks, 8 out of 18 (44.4%) of Group A patients and 1 out of 12 (8.3%) of Group B showed mycological cure (P=0.08). Ten patients of Group A who had KOH positivity after 2 weeks were given 2nd dose of 400 mg fluconazole 2 weeks after the 1st dose. Nine of these (90%) showed mycological cure at the end of subsequent 2 weeks . The difference between the efficacy of single dose fluconazole after 2 weeks and 2 doses of fluconazole after 4 weeks was statistically significant (P< 0.01). None of the patients had any significant side effects. Therefore single dose therapy of fluconazole 400 mg is not satisfactory in TV. Instead, 2 doses of flluconazole (400 mg) given at 2 weeks intervals is safe and very effective.

Key words : Tinea versicolor, Fluconazole

Introduction

Tinea versicolor (TV) is a common superficial mycotic infection seen throughout the world. Though various medications, both topical and oral have been tried with good results, recurrence of the disease is usually seen. Three important oral drugs used for the treatment are ketoconazole, itraconazole and fluconazole.[1]

Fluconazole is relatively a newer drug used in the treatment of TV.[1] Daily dosage of 50 mg for 20 days and a single oral dose of 400 mg of this drug have been reported to be effective .[2,3] We conducted this prospective double blind placebo controlled study to find out the efficacy of single oral dose of 400 mg of fluconazole and to find out if 2 doses of 400 mg of fluconazole at 2 weeks apart is better than the single dose.

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Materials and Methods

A total of 33 patients, (24 males, 9 females) with extensive TV were enrolled in this double blind study. The criteria for the inclusion of the patients in this study were-

1. Extensive involvement, at least 18 % of the body surface employing the rule of nine.
2. Patients who had not used any treatment for the disease either topical or oral for at least 2 and 3 weeks respectively, before consulting us,
3. Who were not having any other skin or systemic diseases or taking any other drugs for any diseases.
4. Mycologically proven cases employing the KOH smear study.

The details regarding age, sex, extent of the lesion, duration of the disease, type of lesion etc. were entered in a proforma. Scraping for the fungus was done from the area of maximum involvement and the same site was also observed for clinical improvement. The patients

were randomly allocated into two groups (A & B) and given either 400 mg. of tablet (Group A) or color and size matched placebo (Group B). No other medication either topical or oral was given.

The patients were followed up weekly for 4 weeks. The following points were noted on each visit-

1. Increase or decrease in the extent of the lesion or change in the pigmentation recorded visually by the observer and by the patients.
2. Mycological evaluation by KOH study from the same earlier site.
3. Any adverse effect of the drugs.

At the end of two weeks, if KOH preparation revealed hyphae or spores of *Malessezia furfur,* patients from either groups were followed up for another 2 weeks.

Decoding of the drugs was done only at the end of the study and statistical evalution was done by using chi-square and t- tests.

Results

Out of 33 patients enrolled for the study, 3 patients (1 patient from group A and 2 patients from group B) were not available for the follow up for reasons unknown-

At the end of the follow-up period, 18 patients form group A and 12 patients from group B were available for the assessment. Table -I show the demographic data of 30 patients. At the end of second week , 8 out of 18 patients (44.4%) from group B (placebo) showed clinical and mycological cure (Table II). The treatment efficacy was not statistically significant (p=0. 08).

Ten patients of group A who remained KOH positive after 2 weeks were given 2nd dose of 400 mg fluconazole 2 weeks after the Ist dose. These patients were considered as two dose group (Group-2) and all the patients who had received single dose of fluconazole up to Ist two weeks were considered as Group1. Thus the total number of patients who received two doses of the drug were 10 and total number of patients who received single dose were 18. Nine out of 10 (90%) patients in the 2 dose group showed clinical and mycological cure at the end of 4 weeks (Table- II)

Table I. Patients profile included in the study

No. of patients (M/F)	Age	Extent %	Duration (in months)
Group A 18(11/7)	24.5	23.5	6.2
Group B 12(10/2)	26.5	26.5	4.3

The patients with hyperpigmented variety cleared faster compared to hypopigmented type. Three patients complained about mild side effects in the form of mild head- ache and nausea; 2 from the single dose group and one from 2 dose group . No side effects were reported from the placebo group.

Discussion

Fluconazole has been tried in various regimes in TV.[2-4] Zuchi et al[2] demonstrated complete clinical and mycological cure with fluconazole 50 mgs daily for 20 days. Faergemann[3] tried single oral dose of 400 mgs of fluconazole in the treatment of TV . Out of 23 patients, 17 (74%) were free of lesions three weeks after treatment.

Table II Efficacy of single dose Vs double dose of Fluconazole

KOH smear	Group 1 (n= 18) (single dose)	Group 2 (n=10) (Double dose)
Negative	08 (44.4%)	09 (90.0%)
Positive	10 (55.6%)	01(10.0%)*

* (p<0.01)

In our study, only 8 out of 18 (44.4%) patients from placebo group also showed mycological cure by the end of two weeks (p=0. 08) . Ten patients received a second dose at the end of second week. Of these, 9 patients were mycologically cured at the end of two weeks (p<0.01).

The study group consisted of patients of humid coastal belt of Dakshina Kannada district. The humidity, high temperature and excessive sweating which are prevalent in tropical countries favour the growth of, this organisam.[5,6] But the low mycological cure obtained after single dose therapy points towards a lower efficacy. The disparities between our study and the study conducted by Faergemann, may be due to the climatic or geographical differences between the study groups.

One patient in the placebo group had mycological cure by the end of two weeks. It may be attributed to the awareness of the predisposing factors and subsequent care by this particular patient or it may be due to some technical error.

Hence, in the present study, a single dose of 400 mg. fluconazole was found to have a low efficacy of 44.4%. However, two dose regimen had a more significant efficacy of 90%, So, we recommend two doses of 400 mg of fluconazole given 2 weeks apart for an effective mycological and clinical cure.

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