Efficacy of Azole Antifungal in Treatment of Pityriasis Versicolor

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Abstract

AIM: Compare itraconazole alone, fluconazole combined with ketoconazole and ketoconazole in the treatment of patients with pityriasis versicolor.

MATERIAL AND METHODS: A group of 240 pityriasis versicolor patients (confirmed with KOH and culture) were classified into 3 groups: Fluconazole 300 mg a week and 2% ketoconazole foam twice a week for 2 weeks (Category I); Itraconazole 200 mg daily for one week (category II); Ketoconazole 2% foam daily for 2 weeks (Category 3). Clinical (colour of macule, scale, pruritus) and mycological assessment were done after 4 weeks of therapy.

RESULTS: After 4 weeks of treatment, clinical cure was observed in 62.4% (Category I), 36.3% (Category II) and 37.5% (Category III).

CONCLUSION: It was reported in our study that the most effective regimen for PV patients is fluconazole 300 mg per week combined with ketoconazole 2% twice a week for 2 weeks.

Introduction

Pityriasis versicolor is a common, chronic, superficial fungal infection caused by Malassezia spp [1]. It is characterised by hyperpigmented, hypopigmented macules and patches on the face, upper trunk, back, chest paralleling the density of sebaceous gland. Several topical and systemic antifungal agents are effective against pityriasis versicolor. However, recurrence is common. Therefore, approaching an effective, safe and affordable treatment regimen should be taken in consideration.

Our study aimed to assess and compare the efficacy and the safety of oral fluconazole combined with foam ketoconazole, oral itraconazole and foam ketoconazole alone.

Material and Methods

A group of 240 patients with pityriasis versicolor over 16 years old attending our out-patient dermatology clinic from January 2016 to December 2016 were included in the study. Patients with other superficial and systemic fungal infections, history of treatment with oral antifungal drugs during the previous month or with topical anti-fungal drugs within 1-week, pregnant females, and patients with the serious concurrent disease were excluded from the study.

Eligible patients were randomised to receive one of the following categories of treatment regimen: Category I: Fluconazole 300 mg a week for 2 weeks and foam ketoconazole 2% biweekly in 2 weeks;
The mycological examination is considered the most important factor in determining the efficacy of treatment. The negative result showed that the patient had recovered from the microorganism despite still having skin lesions. It was reported in our study as shown in Table 2 that negative mycological examination was highest in group 1 (81.3%); lowest in group 3 (60%).

### Table 2: Clinical and mycological assessment after 4 weeks of therapy

| Scale            | Present | Absent | Present | Absent | Present | Absent | Present | Absent | Present | Absent | Present | Absent | Present | Absent | Present | Absent |
|------------------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|
| Pruritus         | 80      | 24     | 67      | 37     | 15      | 17     | 54      | 43     | 48      | 17     | 54      | 43     | 48      | 17     | 54      | 43     |
| Pruritus final   | 80      | 0      | 67      | 0      | 15      | 0      | 54      | 0      | 48      | 0      | 54      | 0      | 48      | 0      | 54      | 0      |
| Pruritus baseline| 80      | 0      | 67      | 0      | 15      | 0      | 54      | 0      | 48      | 0      | 54      | 0      | 48      | 0      | 54      | 0      |
| Pruritus change  | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      |
| Mycological      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      |
| Mycological final| 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      |
| Mycological change| 0     | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      |
| Mycological baseline| 0   | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      |
| Mycological change| 0     | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      |
| Mycological change| 0     | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      | 0       | 0      |
| Disease activity score | 4.7 ± 1.5 | 4.5 ± 1.6 | 2.5 ± 1.4 | 4.6 ± 1.4 | 2.5 ± 1.2 | 2.5 ± 1.2 |
| Decrease in DAS | 2.5 ± 1.1 | 2.0 ± 1.0 | 2.1 ± 0.8 |

It was also reported in Table 2 that 53/80 patients (66.3%) treated with itraconazole 200 mg daily for 7 days have negative KOH examination.
the cure rate was observed in 100% of patients after 2 weeks of ketoconazole shampoo 1% and 2%. It was 81%, 55% and 72% in Rigopoulos (2007), Cantrell (2014) and Shi (2014)’s study [6], [7], [8].

In our research, we have assessed one of the most common regimen antifungal drugs in Vietnam – itraconazole 200mg daily for 7 days. Kose et al. reported equivalent efficacy between a daily 200 mg dose of itraconazole for 7 days and a single 400 mg dose [9]. Kokturk et al., reported greater efficacy of 400 mg of itraconazole a day over 3 days and 200 mg a day over 5 days than 400 mg in 1 day [5]. It was demonstrated in our study that the cure rate was seen in 66.3% of patients when they were treated by itraconazole 200mg daily for 7 days. When cure plus improvement was considered, response rates among the three treatment groups were comparable (97, 100, and 97% for fluconazole 450 mg, fluconazole 300 mg, and itraconazole, respectively) [10].

The unsimilar result between authors can be explained by the difference in criteria for efficacy assessment. The mycological cure rate was always higher than the clinical cure rate in all study groups. As a mycological cure is the only reliable criterion in assessing treatment efficacy, this implies that a proportion of patients rated as clinically improved were cured with residual colour changes (mostly hypopigmentation) [11], [12].

In conclusion, topical combined with systemic therapy is effective against tinea versicolor, especially extensive disease, frequent relapses, or history of failed topical treatment. In the current study, we found the highest mycological cure rate, 62.4%, with a single oral dose of fluconazole 300mg along with ketoconazole foam 2% twice a week, higher than with itraconazole 200 mg daily for one week (35.3%) and ketoconazole foam (37.5%).

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