Comparison of a single 400 mg dose versus a 7-day 200 mg daily dose of itraconazole in the treatment of tinea versicolor

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BACKGROUND: Tinea (pityriasis) versicolor is a superficial infection of the stratum corneum by the lipophilic fungus known as Malassezia furfur.

OBJECTIVE: To evaluate the efficacy and safety of a 400 mg single dose or 7-day 200 mg daily dose of itraconazole capsules in the treatment of mycologically confirmed pityriasis versicolor.

METHODS: A total of 50 patients were entered into a randomized, open, clinical trial comparing a 400 mg single dose (n=24 for group 1) with a 7-day 200 mg daily dose (n=26 for group 2) of itraconazole. Clinical signs and symptoms and mycologic evaluation (potassium hydroxide preparation and Wood’s lamp) were performed before treatment, and at weeks 3 and 6 after treatment.

RESULTS: Both regimens of itraconazole were effective. Our results showed that there were no significant differences in efficacy and safety between the two treatment regimens (chi-square tests, \( p > 0.05 \)).

CONCLUSIONS: On the basis of these findings, a single dose of itraconazole 400 mg/day was as effective as the 7-day 200 mg daily dose in the treatment of pityriasis versicolor. (J Dermatol Treat (2002) 13: 77–79)

Keywords: Tinea versicolor – Malassezia furfur – Itraconazole

Background

Pityriasis versicolor is a common superficial fungal infection caused by the lipophilic yeast Malassezia furfur, which is a part of the normal flora of the human skin. It is a chronically recurring infection characterized by the presence of hypopigmented or hyperpigmented white, salmon pink, red or brown macules occurring primarily on the trunk. Pityriasis versicolor is one of the most common dermatologic disorders in tropical and temperate climates, and affects adults more often than children.\(^1\)\(^2\) Itraconazole is a highly keratophilic and lipophilic triazole. Secretion in sebum is a major route by which the drug reaches the stratum corneum. Itraconazole is detectable in sweat within 24 hours of ingesting a 200 mg dose.\(^3\)

In this clinical trial, we studied the efficacy, safety, tolerability and cost-effectiveness of a single 400 mg dose of itraconazole versus a 7-day 200 mg daily dose of itraconazole in extensive and/or recurrent pityriasis versicolor.

Materials and methods

A total of 50 patients with recurrent and/or extensive pityriasis versicolor were enrolled randomly in this study. All of the patients had a positive potassium hydroxide solution and Wood’s lamp examinations for Malassezia furfur, both of which are quick diagnostic methods. For this reason we did not perform fungal culture for confirming the presence of pityriasis versicolor. Exclusion criteria for the study were age <18 and women of childbearing age. Patients had no topical treatment for 2 weeks, and no
systemic antifungal intake prior to the study. Patients were divided into the treatment groups randomly:

- group 1: 24 patients were treated with itraconazole 400 mg/day as a single dose for 1 day;
- group 2: 26 patients were treated with itraconazole 200 mg/day for 1 week.

Patients were evaluated clinically and mycologically before treatment, and then at 3 and 6 weeks after starting treatment. Follow-up visits were performed at weeks 3 and 6. At every visit, all patients were assessed for the following clinical signs and symptoms: scaling, hyperpigmentation or hypopigmentation and pruritus. Each of these variables were scored as 0 = absent, 1 = mild, 2 = moderate, and 3 = severe. Clinical cure was defined as the disappearance of lesions with slight or no color changes and a negative Wood’s lamp examination. Mycological evaluation, which includes a direct potassium hydroxide preparation and Wood’s lamp examination, was performed at every visit. A mycological eradication was defined as a negative potassium hydroxide preparation and the absence of scale reflections on Wood’s lamp examination. A complete blood count and liver and renal function tests were checked for every patient before therapy and at week 3.

**Results**

At the end of the study we evaluated 50 patients (37 men, 13 women): n = 24 in group 1 and n = 26 in group 2 (Table I). Of the 50 patients, 37 (74%) had received previous treatment (topical antimycotic agents and shampoos) for pityriasis versicolor with some benefits. There were no significant differences between the groups with regard to demographic data. Clinical results of the treatment were shown in Figure 1. The clinical outcome was similar at week 6. Clinical response scores changed from 3.2083 to 0.336 for group 1, and from 3.6923 to 0.341 for group 2. There was no difference between the two therapy regimens (Mann–Whitney U tests, two-tailed, $p = 0.959$ for scale, $p = 0.580$ for hypo/hyperpigmentation, $p = 0.298$ for pruritus). A chi-square test showed that there was no statistically significant difference between the two groups in mycologic eradication after 6 weeks ($\chi^2 = 0.602$, $p > 0.05$). There were no abnormalities in the complete blood count or liver and renal function tests at week 3. Five patients had mild adverse effects. In group 1, one patient had fatigue and the other had nausea. Three patients had abdominal pain in group 2.

![Figure 1](image)

**Clinical and mycological results (week 6).**

**Discussion**

Pityriasis versicolor can often be treated successfully with topical preparations, but this treatment is time-consuming and also not successful for extensive disease. Systemic therapy is primarily indicated for extensive lesions and frequent relapses in pityriasis versicolor. Itraconazole is a member of a group of antifungal compounds that are potent inhibitors of fungal ergosterol synthesis through inhibition of the cytochrome P-450 dependent enzyme, lanosterol 14-alpha demethylase. Itraconazole is an ideal drug for oral treatment of pityriasis versicolor as it is secreted in sebum directly on to the skin surface. Itraconazole has been generally used in pityriasis versicolor at 200 mg/day for 1–2 weeks. Hickmann investigated the efficacy and safety of a 7-day course of itraconazole (200 mg/day) in pityriasis versicolor, and reported that itraconazole was significantly more effective than placebo. Clinical trials of other antifungals have been reported, such as ketoconazole and fluconazole. Ketoconazole and fluconazole are members of the imidazole antifungal drugs like itraconazole. In a previous study, we reported that single dose (400 mg/day) itraconazole was as effective as (600 mg/day) fluconazole in extensive pityriasis versicolor. Shemer compared three different regimens in pityriasis versicolor: itraconazole 200 mg/day for 1 week, itraconazole 100 mg/day for 2 weeks, and ketoconazole 800 mg in 2 weekly doses of 400 mg. No statistically significant differences between the groups were reported. This clinical trial shows that a single dose itraconazole regimen is as effective as the 7-day course itraconazole regimen for treating pityriasis versicolor. Furthermore, single dose (400 mg/day) itraconazole

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<tr>
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<th>400 mg/day</th>
<th>200 mg × 7 days</th>
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<tbody>
<tr>
<td>No. of patients</td>
<td>24 (17/7)</td>
<td>26 (20/6)</td>
</tr>
<tr>
<td>Median age (months)</td>
<td>22.3 (20 ± 41)</td>
<td>23.4 (21 ± 38)</td>
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<td>Duration of infection</td>
<td>2.8 (1.3 ± 9)</td>
<td>3.4 (1.2 ± 8)</td>
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**Table 1**

Demographic data of the patients
therapy is four times cheaper than 200 mg/day for the 7-day therapy.

We think that the efficacy of a single dose of itraconazole 400 mg may depend on having treatment for the first time in our patients with pityriasis versicolor. Using the single dose regimen may prove advantageous in improving compliance and in decreasing the cost of treatment.

We therefore consider that 400 mg/day of itraconazole as a single dose represents an effective alternative therapy for extensive pityriasis versicolor. This clinical trial is the first report on the effectiveness of single dose (400 mg/day) itraconazole in pityriasis versicolor and this preliminary result should be confirmed in randomized, double-blind, comparative clinical trials.

References


