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Research Article

ORAL ITRACONAZOLE TREATMENT IN TINEA INCOGNITO PATIENTS AT CAN THO DERMATO-VENEROLOGY HOSPITAL, VIETNAM

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ABSTRACT

Background: Superficial mycoses are fungal infections occurred in keratin tissues such as stratum corneum, hair, and nails. Tinea incognito (TI) is one of the clinical forms of superficial mycoses that has symptoms. In this study, there were 124/234 (50.4%) patients purchasing corticosteroids by themselves at drug stores whereas Betamethasone is considered as a most common component that is commonly used to treat skin conditions before they are diagnosed TI. There were about 50/234 (20.3%) patients visit the dermatology clinics and the diagnoses are variants including atopic dermatitis, contact dermatitis, versicolor pityriasis. This phenomenon causes great difficulty for doctors to make an accurate diagnosis and effective treatment. Therefore, this study with the aim to provide more practical data of dermatophyte infection in clinic could bring great advantage for patients. **Aims:** to describe clinical features and outcomes of dermatophyte infection treated with oral itraconazole. **Subjects and methods:** A cross-sectional descriptive study analyzed 246 patients with fungal skin infection at Hospital of Dermato-venereology. **Results:** The prevalence of fungal skin infections caused by corticosteroids was 95.1%. The most common types of clinical forms were tinea cruris (18.3%), tinea faciei (11.8%), tinea corporis (5.7%), tinea pedis (4.5%) and tinea manuum (4.5%). 36.2% of cases had more than two categories of skin lesions. The results of treatment with oral itraconazole after 2 weeks had 3.4% recovery, 55.3% decrease, 31.3% no response and 100% recovery after 4 weeks. **Conclusions:** 95.1% patients got tinea incognito with atypical clinical manifestations. The effectiveness of itraconazole was proved in treating the disease.

Keywords: fungi, topical corticosteroids, itraconazole, tinea incognito.

INTRODUCTION

Tinea incognito (TI) is a medical term for dermatophytes infection with modified symptoms due to the prior misuse of topical or systemic immunosuppressants like corticosteroids or calcineurin inhibitors. It was first described back in 1968 by Ive and Marks. Typically, lesions of dermatophytes infection are annular erythema with elevated margin and central clearing. In TI, the clinical presentation is lack of these features. The lesions have less raised border and tend to be more extensive, pruritic, pustular. Sometimes, they may look similar to other dermatological diseases such as rosacea, psoriasis, erythroderma… Because of the confusing clinical appearance, diagnosis of TI can be quite a challenge and frequently delayed or missed. The confirmation should be based on direct microscopic examination with potassium hydroxide which demonstrates dermatophytes structures (1), (2). When the diagnosis is established, topical corticosteroids should be stopped abruptly. Oral antifungal therapy is essential in treatment and many experts recommend Itraconazole 200 – 400 mg/day for 4 – 6 weeks or longer as the drug of choice (3). In Vietnam, the easy over-the-counter access to corticosteroids results in many health problems because of abusing the medicine included TI. Therefore, we conducted a cross-sectional study to identify the efficiency of oral itraconazole treatment in TI patients at Can Tho Dermato-Venerology Hospital, Vietnam from 2017 - 2018.

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Figure 1. Tinea inconigto

MATERIALS AND METHODS

Patients with fungi skin infection at Hospital of Dermato-Venereology from 6/2017 to 11/2017. Diagnosing fungal skin infections based on the standards about the lesions and distributed area. The lesions of fungal skin infections included red macule or pink macule, the border is red, scaly, and slightly raised. The central area is often lighter than the surrounding normal skin, vesicles appear at the active border. The intensity of itching is variable, patients feel so itch when the sweat glands release too much sweat. The single most important test for the diagnosis of dermatophyte infection is direct visualization under the microscope of the branching hyphae in keratinized material. Following the incidence study of Hoang Huy Pham (2015) the incidence study of fungi infections was 80% (4). Therefore, we choose 246 patients with the reliability at 95% (5). The study was

designed cross-sectional descriptive and analytic. We collected the sample conveniently at Can Tho Dermatology Hospital from June 2017 to November 2017 following three steps:

- Interviews: Direct interviews with patients according to the prepared data collection form which included age, gender, occupation, knowledge, location, the incidence of fungal skin infections caused by corticosteroids, medical history, clinical features, testing technique for fungi, the results of treatment with oral itraconazole.
- Tinea incognito has been treated with oral itraconazole 100mg twice a day for 4 weeks.
- To evaluate results of treatment with oral itraconazole 100mg after 4 weeks and 6 weeks based on distributed lesion area, itching, burning, scaling, severe levels (6).

The datacollected were analyzed by using SPSS for windows version 18.0 software.

RESULTS AND DISCUSSION

Clinical forms of fungal skin infections

Of the patients in this study, the most common clinical form of fungal skin infections was tinea cruris (18.3%), followed by tinea faciei (11.8%) and tinea corporis (5.7%). Meanwhile, the percentage of both tinea pedis and tinea manuum was 4.5%. The other clinical forms were presented in 55.3% patients (Table 1).

Table 1. The clinical forms of fungal skin infections

Clinical forms	N	(%)
Other clinical forms	136	55.3
Tinea cruris	45	18.3
Tinea faciei	29	11.8
Tinea corporis	14	5.7
Tinea pedis	11	4.5
Tinea manuum	11	4.5
Total	246	100

Some commonly clinical manifestations were identified including tinea cruris (18.3%), tinea corporis (5.7%), tinea manuum (4.5%). This study was compared with some authors reported that tinea cruris accounted for 9.9% according to the study of Kim Jeong-Won (7) or 22.7% as in Tran H. L. study (6). Although, the result of each study was different, this clinical form was the most popular which may be caused by pH 6-6.8 higher than other skin areas (pH 5-5.5) or wet areas like hips, inguinal folds, lower breast folds. In addition, stratum corneum may be become loose and bulging that lead to conveniently develop fungi of the skin. Almost a quarter of the patients had used Betamethasone (24.4%). The using of topical Prednisolone and Flucinolone both accounted for 6.1%. Only 0.4% patients had used Clobetasone. However, most of the patients didn't remember the drug they had used before so we couldn't determine the accurate name of the corticosteroids in 63% cases (as shown in Table 2).

Table 2. The active ingredients of corticosteroids used on fungal skin infections patients

The active ingredients of topical corticosteroids used	N	%
Undeterminable	155	63.0
Betamethasone	60	24.4
Prednisolone	15	6.1
Fluocinolone	15	6.1
Clobetasone	1	0.4
Dexamethasone	0	0

It was reported that 234/246 (95.1%) patients have been used topical corticosteroids before they visited dermato-clinics. Among active elements of corticosteroid, the rate of using betamethas one was highest (24.4%). This was an issue considering because betamethasone propionate was usually indicated to treat allergic skin diseases. The drug may be bought at drug stores without prescription of physicians, so patients abuse the drug for every skin conditions with a lot of purposes even cosmetic purpose and they did not care about possible side effects. Tinea incognito was one of the most unwanted effects.

Treatment with oral itraconazole

The efficacy and safety of using oral itraconazole in the treatment of tinea incognito was revealed in table 3.

Table 3. The results of treatment with oral itraconazole after 2 weeks, 4 weeks

Results	Recovery %	Decrease%	No response %
After 2 weeks	**13.4**	**55.3**	**31.3**
After 4 weeks	**100**	**0**	**0**

After the patients had used oral itraconazole 100mg twice a day for 2 weeks, clinical response was seen in 68.7% of patients including 13.4% had a full recovery and 55.3% decreased symptoms; and 31.3% remaining patients didn't response with the treatment. The recovery rate was 100% after 4 weeks. The trial showed that intraconazole twice a day for 4 weeks is really effective in the treatment of tinea incognito. The treatment of tinea incognito established oral intraconazole regimen with rarely side effects. Most of patients had well tolerated and did not have any abnormal signs (92.7%). We have just noted 7.3% patients manifested nausea with dosages of intraconazole 100mg twice a day for 4 weeks. According to this study, the results of treatment with oral itraconazole after 2 weeks had 13.4% recovery, 55.3% decrease, 31.3% no response and 100% recovery after 4 weeks which was compared with the study of Pham K. H. (8). These studies had the similar outcome. The study of Pham K. H. also reported with 54.29% patients recovering and 37.14% patients decreasing (8). Almost cases did not exposure any side effects (93.9%) when they were treated with topical therapy. There were only 4.1% patients getting pruritus and 2% patients having erythema. Systemic therapy was safety in majority patients (92.7%) and only 7.3% cases getting nausea.

CONCLUSION

The commonly clinical form of tinea incognito was tinea cruris (18.3%) and tinea faciei (11.8%). Up to 95.1% cases have been used corticosteroids before treating. The using rate of betamethasone was highest (24.4%). The outcomes of treatment with oral itraconazole after 2 weeks showed that 13.4% recovery, 55.3% decrease, 31.3% no response and 100% recovery after 4 weeks. Most of them had no side effects.

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Competing interests

There was no conflict of interest has been declare by authors.

Authors' Contributions

Huynh Van Ba originated of the presented idea, supervised data collection, contributed and revised the final version of the manuscript. Ho Minh Chanh developed the theory and performed data analysis, conducted the first draft of manuscript. Pham Thanh Thao performed data analysis, proofreading and editing of the manuscript. Nguyen Thi Thuy Trang, Lac Thi Kim Ngan, Tran Gia Hung and Nguyen Hoang Khiem carried out the experiments, Do Thi Hoang Diem planned the experiments, revised and edited first draft and final manuscript. All authors provided critical feedback and helped shape the research, analysis and manuscript.

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