Section: Dermatology

Original Article

ISSN (O): 2347-3398; ISSN (P): 2277-7253

Efficacy of Sertaconazole and Terbinafine in Patients with Tinea Corporis and Tinea Cruris

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Abstract

Background: To assess efficacy of sertaconazole and terbinafine in patients with tinea corporis and tinea cruris. **Subjects and Methods:** Sixty-four patients with tinea corporis and tinea cruris of both genders were enrolled and were divided into 2 groups of 32 each. Group I were given sertaconazole (2%) twice daily and group II were given terbinafine (1%) twice daily. Response to treatment was assessed after 3 weeks. **Results:** Group I had 20 males and 12 females and group II had 18 males and 14 females. The mean value of scaling was 1.17 in group I and 1.14 in group II. The mean value of erythema was 1.46 in group I and 0.60 in group II. The mean value of pruritus was 1.37 in group I and 0.70 in group II. The difference was significant (P< 0.05). Response of treatment was poor seen in 24% in group I and 45% in group II. Moderate response was seen in 43% in group I, 40% in group II and good response was seen in 33% in group I, and 15% in group II. The difference was significant (P< 0.05). **Conclusion:** Sertaconazole was efficient in management of cases of tinea corporis and tinea cruris as compared to terbinafine.

Keywords: Tinea corporis, Sertaconazole, Terbinafine.

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Received: 02 September 2021 **Revised: 08 October 2021** **Accepted: 19 October 2021** **Published: 11 November 2021**

Introduction

Tinea refers to scaly fungal infections of the epidermis and skin appendages caused by a group of keratinophilic fungi known as “dermatophytes” which includes three genera, namely, Epidermophyton, Microsporum and Trichophyton. Trichophyton rubrum is implicated as the most common causative agent of dermatophytosis in India.[1] The two varieties of tinea most commonly encountered are tinea corporis (affecting trunk and limbs) and tinea cruris (affecting the inguinal region).[2] The former presents as radially advancing, flat, scaly, pruritic macules with a raised border and a characteristic central clearing which earns the sobriquet “ringworm” for these lesions.[3]

Depending upon the site of infection, dermatophyte infection can be classified as tinea corporis (body), tinea cruris (groin), tinea capitis (head), tinea pedis (feet), tinea manuum (hand), tinea unguium (nail), tinea barbae (beard) etc.[4] The most common factors predisposing to fungal infection still remain poor personal hygiene, immune status and associated illness. The two most important methods used to diagnose dermatophytosis are direct microscopy and isolation of the specific species through culture.[5] New extended-spectrum triazoles and allylamines have been introduced into market among such are Luliconazole, Sertaconazole, Eberconazole which belong to triazoles and Amorolfine which belong to Allyamine group.[6] Considering this, we compared efficacy of sertaconazole and terbinafine in patients with tinea corporis and tinea cruris.

Subjects and Methods

A sum total of eighty- four patients diagnosed with tinea corporis and tinea cruris of both genders were included. All were enrolled with their written consent. Institutional ethical clearance for the conduction of the study was obtained.

Socio- demographic data of each patient was recorded. Patients were randomly divided into two groups of 32 each. Group I were prescribed sertaconazole (2%) twice daily and group II were given terbinafine (1%) twice daily. Parameters such as location of lesion, morphology and symptoms were noted. Scrapings from the edge and/or from the scaly area of the lesions were taken. Response to treatment was assessed after 3 weeks. The improvement in the pruritus, erythema and scaling was recorded as score 0 for no improvement, score 1 for partial improvement and score 2 for complete improvement. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered

significant.

Results

Table 1: Distribution of patients

Groups	Group I	Group II
Drug	sertaconazole (2%)	terbinafine (1%)
M:F	20:12	18:14

Group I had 20 males and 12 females and group II had 18 males and 14 females [Table 1].

Table 2: Comparison of symptoms in both groups

Groups	Scaling	Erythema	Pruritus
Group I	1.17	1.46	1.37
Group II	0.80	0.60	0.70
P value	0.01	0.02	0.05

The mean value of scaling was 1.17 in group I and 1.14 in group II. The mean value of erythema was 1.46 in group I and 0.60 in group II. The mean value of pruritus was 1.37 in group I and 0.70 in group II. The difference was significant (P< 0.05) [Table 2, Figure 1].

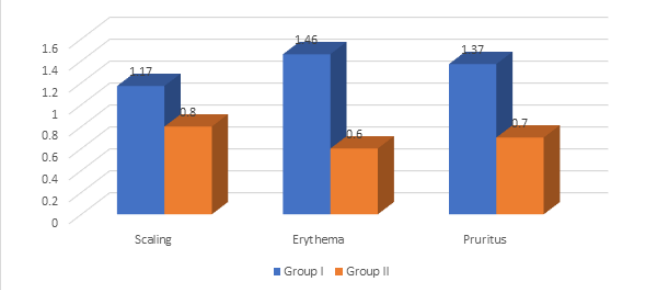

Figure 1: Comparison of symptoms in both groups

Table 3: Response in all groups

Response	Group I	Group II	P value
Poor	24%	45%	0.04
Moderate	43%	40%	0.91
Good	33%	15%	0.02

Response of treatment was poor seen in 24% in group I and 45% in group II. Moderate response was seen in 43% in group I, 40% in group II and good response was seen in 33% in group I, and 15% in group II. The difference was significant (P< 0.05) [Table 3, Figure 2].

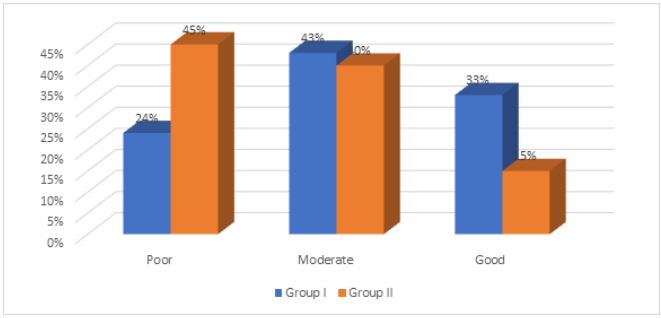

Figure 2: Response in all groups

Discussion

Dermatophytoses is a superficial fungal infection of keratinized tissue, caused by keratinophilic fungi called dermatophytes.[7] Dermatophytoses is commonly called as tinea. Tinea corporis and tinea cruris is the dermatophytoses of glabrous skin and groin, respectively. Imidazoles, allyalamines and triazoles are most effective agents for dermatophytoses.[8] Topical daily antifungal therapy usually involves imidazoles and allylamines. Terbinafine is a broad spectrum lipophilic antifungal agent showing excellent activity in patients with tinea corporis or tinea cruris.[9] Sertaconazole is a new benzothiophene imidazole derivative that is being used worldwide for varied indications including dermatophytosis, candidiasis, pityriasis versicolor, seborrhoeic dermatitis of scalp.[10] Sertaconazole has both fungistatic and fungicidal activity against Dermatophytes, Candida spp. and Cryptococcus fungal infections.[11] We compared efficacy of sertaconazole and terbinafine in patients with tinea corporis and tinea cruris.

In present study, group I had 20 males and 12 females and group II had 18 males and 14 females. Chaudhary et al,[12] assessed the efficacy of topical terbinafine hydrochloride 1% cream and sertaconazole nitrate 2% cream in localized tinea corporis and tinea cruris. Patient were randomized into two groups. Patients in group A and B were treated with twice daily topical 1% terbinafine hydrochloride and 2% sertaconazole nitrate cream respectively. Clinical improvement in signs and symptoms of each clinical parameter, namely itching, erythema, papules, pustules, vesicles, and scaling were graded weekly and clinical cure was assessed. Comparison between Group A and Group B for complete cure (clinical and mycological) showed that at the end of 3 weeks both terbinafine and sertaconazole groups had 100% complete cure. When the two groups were compared for complete cure, at the end of 1^{st} and 2^{nd} week, statistically non-significant results were observed. However, at the end of 2nd week, complete cure rate for terbinafine was 80% as compared to 73.35% for sertaconazole with no statistical significance. In both Group A and Group B, clinically significant local

side effects like erythema, swelling, stinging sensation, or increased itching were not noticed. A majority of our patients in both the group showed Trichophyton rubrum followed by Trichophyton mentagrophytes growth on culture. In Group A, 11 patients showed growth of T. rubrum, 2 patients showed growth of T. mentagrophytes, and 1 patient had only KOH test positive. In Group B, 10 patients revealed growth of T. rubrum, followed by growth of T. mentagrophytes in 3 and Microsporum canis in 2 patients. The therapeutic response is more or less same in infection with different species.

Our results showed that the mean value of scaling was 1.17 in group I and 1.14 in group II. The mean value of erythema was 1.46 in group I and 0.60 in group II. The mean value of pruritus was 1.37 in group I and 0.70 in group II. Jerajani et al,[13] compared sertaconazole, terbinafine and luliconazole in 83 patients with tinea corporis and tinea cruris infections which were divided into three groups receiving either sertaconazole 2% cream applied topically twice daily for four weeks, terbinafine 1% cream once daily for two weeks, luliconazole 1% cream once daily for two weeks. Results found that greater proportion of patients in sertaconazole group (85%) showed resolution of pruritus as compared to terbinafine (54.6%); and luliconazole (70%). There was a greater reduction in mean total composite score (pruritus, erythema, vesicle and desquamation) in sertaconazole group (97.1%) as compared to terbinafine (91.2%) and luliconazole (92.9%). All groups showed equal negative mycological assessment without any relapses. All three study drugs were well tolerated.

Our results demonstrated that response of treatment was poor seen in 24% in group I and 45% in group II. Moderate response was seen in 43% in group I, 40% in group II and good response was seen in 33% in group I, and 15% in group II. Kumar et al,[14] in their study a total of 100 patients were prescribed topical amorolfine (0.25%), luliconazole (1%), sertaconazole (2%) and terbinafine (1%). It was found that Luliconazole showed best improvement of pruritus, erythema and scaling. Terbinafine showed the least improvement with mean being 0.62, 0.52, 0.77 for pruritis, erythema and scaling respectively. Difference in the mean values of improvement of luliconazole as compared to the other three drugs was significant for pruritus and highly significant for erythema and scaling. A total of 16 patients (64%) in luliconazole group showed good response as compared to the other drugs. These differences in the improvement of patients was statistically significant as compared to other drugs. Thaker et al,[15] compared the cure rates of topical sertaconazole and topical butenafine in localized epidermal tinea infections and reported a significant reduction of sign and symptom scores at the first follow-up visit. Greer et al,[16] in their study of treatment of tinea cruris with topical terbinafine, clinical results combined with evaluation of mycological tests at the end of therapy showed terbinafine to be rapid and significantly more effective in treatment of tinea cruris than placebo (78% vs 18% cure rate respectively).

Conclusion

Sertaconazole was efficient in management of cases of tinea corporis and tinea cruris as compared to terbinafine.

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How to cite this article: Kaushik M. Efficacy of Sertaconazole and Terbinafine in Patients with Tinea Corporis and Tinea Cruris. Asian J. Med. Res. 2021;10(4):1-4.

DOI: dx.doi.org/10.47009/ajmr.2021.10.4.DT1

Source of Support: Nil, **Conflict of Interest:** None declared.