

Original papers

Double blind study of sertaconazole 2% cream vs. clotrimazole 1% cream in treatment of seborrheic dermatitis

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ABSTRACT. Treatment of seborrheic dermatitis (SD) is an important issue in dermatology. This study was undertaken to compare efficiency of sertaconazole 2% cream vs. clotrimazole 1% cream for the treatment of seborrheic dermatitis. One hundred twenty eight patients suffering from SD were studied. Patients were randomly divided into two groups. Sixty four patients received local sertaconazole 2% cream and in control group 64 patients received clotrimazole 1% cream. They were recommended to use the cream twice a day for 4 weeks. At the beginning of referring and 2 and 4 weeks after first visit, the patients were examined by a dermatologist to assess improvement of clinical symptoms. The mean age of sertaconazole and clotrimazole group patients was 34.78 ± 13.54 and 38.68 ± 11.88 , respectively. The highest level of satisfaction (87.6%) was observed 28 days after sertaconazole administration and in clotrimazole group it was 50%. Relapse of the disease one month after stopping treatment was not observed in groups treated with sertaconazole 2% cream and clotrimazole 1% cream. This study suggests that sertaconazole 2% cream is an effective and well-tolerated treatment for moderate to severe facial seborrheic dermatitis.

Key words: seborrheic dermatitis, treatment, sertaconazole 2% cream, clotrimazole 1% cream

Introduction

Seborrheic dermatitis is a papulosquamous disorder patterned on the sebum-rich areas of the scalp, face, and trunk [1]. In addition to sebum, this dermatitis is linked to *Malassezia* species, changes in humidity, changes in seasons, trauma or emotional stress [2,3]. The severity varies from mild dandruff to exfoliative erythroderma [4]. Seborrheic dermatitis may worsen in Parkinson disease and in AIDS. Seborrheic dermatitis is extremely rare during period between infancy and puberty [5]. Although underlying pathogenic mechanisms, several clinical features and histologic characteristics may differ, similarities between seborrheic dermatitis and atopic dermatitis include presence of cutaneous inflammation, the common association of pruritus as a related symptom, chronicity of disease, and tendency for exacerbation and responsiveness to topical corticosteroid therapy [6,7]. Treatment options include application of

selenium sulfide, pyrithione zinc or ketoconazole – containing shampoos, terbinafine solution, topical sodium sulfacetamide and topical corticosteroids [8].

Clotrimazole is an anti-fungal medication and is used to treat yeast infections of the vagina, mouth, and skin such as athlete's foot, jock itch, and body ringworm [9]. It can also be used to prevent oral thrush in certain patients. It prevents growth of several types of fungi by preventing production of the membranes that surround fungal cells [10]. It is used topically on the skin, inserted vaginally or allowed to dissolve in the mouth for local fungal infections [11]. Sertaconazole is a new anti-fungal agent used to treat tinea pedis (i.e., athlete's foot; fungal infection of the skin on the feet and between the toes). Sertaconazole is in a class of medications called imidazoles. It works by slowing the growth of fungi that cause infection [12]. Sertaconazole comes as a cream to apply to the skin. It is usually applied twice a day for 4 weeks [13].

Considering high prevalence of seborrheic dermatitis, lack of proved treatment without side effects and contradictory findings presented by current studies on effects of sertaconazole, we decided to conduct the present study aimed at comparison of the efficiency of sertaconazole 2% cream vs. clotrimazole 1% cream as a treatment of seborrheic dermatitis.

Materials and Methods

In this clinical trial 128 patients, aged from 6 to 72 years (mean 36.62 ± 13.18), with diagnosis of seborrheic dermatitis referred to dermatology special clinic in Tabriz were studied. This study was approved by Ethic Committee of Tabriz University of Medical Sciences. Written consent was obtained from all patients.

Patients consumed anti-SD drugs including methyl dopa, chlorpromazine, cimetidine, those who used local or systemic anti-acne drugs one month before referring to this center or concurrently, and those suffering from systemic diseases were excluded from the study. Every patient was clinically examined by a dermatologist. Kind of lesion including generalized (involvement of more than one area) and localized (involvement of one area), descriptive position of lesions, number of inflammatory lesions, erythema, desquamation, itching, and irritation were registered for every patient. To determine SD severity, Scoring Index (SI) ranking system recommended by Koca et al. was used. According to this system, erythema, desquamation, itching and irritation of each area was ranked from zero to three (nonexistence=0, mild=1, moderate=2, severe=3). Sum of these amounts was regarded as SD rank (in three range of 0–4 (mild), 5–8 (moderate) and 9–12 (severe)). Accordingly, every patient has a specific SI before treatment. Patients who satisfied the above criteria were randomly divided into two groups. The first group received sertaconazole 2% cream (group A), and the other (group B) received clotrimazole 1% cream in a double-blind manner. The content of the boxes was unknown to both the patients and the research team. The treatment consisted of two applications of the product twice a day for four weeks.

At the beginning of referring and 2 and 4 weeks after the first visit, the patients were examined by a dermatologist to assess improvement of clinical symptoms and drug side effects. The clinical

Table 1. Baseline demographics

Variable	sertaconazole N (%)	ketaconazole N (%)	P
Gender			
Men	26 (40.6)	24 (37.5)	
Women	38 (59.4)	40 (62.5)	
Age	34.78 ± 13.54	38.68 ± 11.88	0.28
Kind of lesion			0.35
Localized	37 (57.8)	36 (56.2)	
Generalized	27 (42.2)	28 (43.8)	

findings were registered and patients were assigned SI again. Taking into account the pretreatment and post-treatment rank, patients were finally evaluated for their recovery rate. Additionally, patients' satisfaction from the drug was also evaluated. It was registered at the end of treatment in four no-change (0), mild (1), moderate (2), and good (3) conditions. SPSS version 16 was used as analytical software. Coupled T-test, Non-parametric test (Wilcoxon) were used to compare pretreatment and post-treatment results and variance analysis test (for repeated measurements) was used for data analysis. Kappa agreed coefficients and Chi-square test were used to determine satisfaction rate. A *P*-value of <0.05 was considered significant.

Results

The study enrolled 128 volunteers, with 64 in the sertaconazole cream group and 64 in the clotrimazole cream group. Demographics were similar between groups and are summarized in Table 1. Most of the participants were women (60.9%), and the male/female ratio was similar between groups. The mean age was 36.32 ± 13.78 . The mean age of sertaconazole and clotrimazole group was 34.78 ± 13.54 and 38.68 ± 11.88 , respectively. Fifty seven percent and 43% of patients had localized and generalized lesions, respectively. The lesion were observed in 55% of patients on the head, 3% on face, 36% on head and face, 4% on head, face and body and 2% on head and body area. Patients with moderate SI had the highest frequency (75%) at the pretreatment stage with clotrimazole 1% cream, while patients with mild SI had the highest frequency (54.6%) at the post-treatment stage. In patients receiving sertaconazole 2% cream, the highest frequency was

Table 2. Frequency distribution of Scoring Index (SI) values before and after treatment

Days	Beginning day		4 th day		28 th day	
	clotrimazole N (%)	sertaconazole N (%)	clotrimazole N (%)	sertaconazole N (%)	clotrimazole N (%)	sertaconazole N (%)
Mild	2(3.1)	2(3.1)	28(43.7)	36(56.2)	35(54.6)	53(82.8)
Moderate	48(75)	52(81.2)	28(43.7)	22(34.3)	29(45.4)	11(20.2)
Severe	14(21.9)	10(15.7)	8(12.5)	6(9.5)	0(0)	(0)
Total	64(100)	64(100)	64(100)	64(100)	64(100)	64(100)

observed in 81.2% of cases with moderate SI at the pretreatment stage while patients with slight SI had the highest frequency (82.8%) at the post-treatment stage (Table 2). The statistical test demonstrated that SI on 28th day had a significant relation with sertaconazole 2% cream ($P=0.009$). But, this relation was not significant for clotrimazole 1% cream receiving subjects ($P=0.30$). Patients' frequency distribution regarding their satisfaction after administering of sertaconazole 2% cream and clotrimazole 1% cream for 14 and 28 days of treatment has been showed in Table 3. The highest level of satisfaction (87.6%) was observed 28 days after sertaconazole 2% cream administration. Twenty eight days after clotrimazole 1% cream administration, the satisfaction level was about 50%. Chi-square test was used to evaluate relationship found between patients' satisfaction at 14th day with sertaconazole 2% cream and clotrimazole 1% cream. No significant difference was observed between these two groups. Relationship between patients' satisfaction and sertaconazole 2% cream on 28th day was significant ($P=0.006$). It should be mentioned that relapse of the disease one month after stopping treatment was not observed in both groups treated with sertaconazole 2% cream and clotrimazole 1% cream.

Discussion

Seborrheic dermatitis is a common inflammatory chronic-recurrent disorder characterized by erythema and fine scaling, with or without symptoms such as pruritis. The scalp is affected in up to 90% of patients and the face in up to 75% of patients [14]. Clotrimazole is a synthetic, broad-spectrum antifungal agent of the imidazoles family that differs chemically and mechanistically from other antifungals such as allylamines and, moreover, prevents production of the membranes that surround fungal cells [15]. Clotrimazole proved to be safe, well tolerated, and cosmetically acceptable during the 8-week treatment [16]. Despite the efficacy studies of preparations currently used for seborrheic dermatitis, our study demonstrated that the efficacy of clotrimazole was only at the level of 54.6% at the post-treatment stage. Also 28 days after clotrimazole 1% cream administration, the satisfaction level was about 50%. Our study demonstrated that, clotrimazole was not as effective as sertaconazole in the treatment of seborrheic dermatitis. The new nonsteroidal cream is indicated for the management and relief of the signs of symptoms of seborrhea and seborrheic dermatitis, such as itching, erythema, scaling, and pain [17]. Sertaconazole displayed a broad-spectrum

Table 3. Patients frequency distribution considering satisfaction after treatment consumption in 14th and 28th days of treatment

LEVEL OF SATISFACTION	Satisfaction with sertaconazole		Satisfaction with clotrimazole	
	14 th day	28 th day	14 th day	28 th day
None	4(6.2)	0(0)	6(9.3)	0(0)
Mild	6(9.3)	3(4.6)	14(21.8)	3(4.6)
Moderate	12(18.7)	5(7.8)	18(28.1)	29(45.4)
Good	42(65.8)	56(87.6)	26(40.8)	32(50)
Total	64(100)	64(100)	64(100)	64(100)

antifungal activity against dermatophytes and yeasts; additionally, it is effective against opportunistic filamentous fungi and Gram-positive bacteria [18]. Moreover, the antifungal activity of sertaconazole is maintained in clinical isolates of dermatophytes that show reduced susceptibility to other azoles [19]. In our study, in patients received the sertaconazole 2% cream, the highest frequency was observed in 81.2% of cases with moderate SI at the pretreatment stage while patients with slight SI had the highest frequency (82.8%) at the post-treatment stage. The statistical test demonstrated that SI at the 28th day was significant for sertaconazole 2% cream. Also, relationship between patients' satisfaction and sertaconazole 2% cream on 28th day was significant ($P=0.006$). Our study demonstrated the efficacy of sertaconazole 2% cream for the treatment of seborrheic dermatitis.

In other study, Elewski et al. [20] stated that the total effectiveness of sertaconazole in the treatment of seborrheic dermatitis was high. The different efficacy of sertaconazole and clotrimazole creams was not extended to the safety profiles of these medications. The differences between groups were not statistically significant, with overall safety rated as excellent for more than 98% of the individuals in each treatment group.

In summary, these results suggest that sertaconazole 2% cream is a well-tolerated and effective treatment for seborrheic dermatitis.

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