Оригинальная статья

КЛИНИКА, ДИАГНОСТИКА И ЛЕЧЕНИЕ ДЕРМАТОЗОВ

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Efficacy of 1% clotrimazole cream versus 2% sertaconazole cream in the management of seborrheic dermatitis: A randomized controlled trial

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BACKGROUND: *Antifungals are regarded as one of the first line agents in the management of seborrheic dermatitis (SD). However, the data on head to head comparison among various antifungal agents is deplete and is required to broaden the number of first line agents that can be used in SD treatment.*
AIM: *To compare the efficacy of 1% clotrimazole cream with 2% sertaconazole cream in the management of SD.*
METHODS: *60 patients of SD were included and divided into 2 groups. The first group (n = 30) received topical 2% sertoconazole cream for twice a day application for four weeks. The other group (n = 30) received 1% clotrimazole cream applied similarly for 4 weeks. The patients were assessed by an independent dermatologist for response or any side effects due to the medications used at 0 (baseline), 2 and 4 weeks. Subjective sebum production, Scalp and/or facial pruritus, scaling, erythema, SD severity index (SI), and patient satisfaction were used in the final efficacy outcome.*
RESULTS: *Out of the total 60 patients, 65% (39/60) and 35% (21/60) were females and males respectively with age ranging from 6–58 years (mean age: 32.88 ± 12.68 years). 45% (27/60) had generalized and 55% (33/60) had localized disease. The severity of SD changed from moderate to mild in many patients after 4 weeks in both the groups, however, the difference was statistically significant only in the sertaconazole group (p = 0.007). 90% (27/30) and 53.4% (16/30) patients had good level of satisfaction in the sertaconazole and clotrimazole group on 28th day. The relation was statistically significant only in the seratconazole group (p = 0.006). Subjective sebum production, pruritus, scaling and erythema reduced in both the groups. The follow-up period of 1-month post completion of therapy didn't show any relapse in either of the groups.*
CONCLUSION: *Both topical 1% clotrimazole cream and topical 2% sertaconazole cream may be regarded as effective therapies in SD with topical 2% seratconazole cream performing better as compared to topical 1% clotrimazole cream in terms of patient efficacy and acceptability by the patients.*

K e y w o r d s : *antifungals; 1% clotrimazole cream; seborrheic dermatitis; 2% sertaconazole cream.*

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Introduction

There is a plethora of treatment options which exist for SD, which is a chronic inflammatory dermatosis responding less favorably to various agents and is associated with frequent exacerbations [1]. Topical antifungals constitute a key component of SD management [2].

Though it's a common condition which occurs worldwide with prevalence reaching up to 50% for the non-inflammatory form of SD which include dandruff (also known as pityriasis capitis) [3], the exact etiology of SD remains undefined [4]. Various factors may be involved in driving the disease process in a genetically predisposed individual which includes an abnormal response of host to the commensal Malassezia which is a lipophilic yeast, inflammation and sebaceous gland secretion [5]. No age group appears to be spared by SD, however,

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it is more commonly seen in children aged 2 months to 1 years and also in the early adulthood [6, 7].

Clotrimazole belongs to the imidazole class of synthetic antifungals. It is available as an over the counter drug and is usually devoid of any side effects [8]. It has a broad antimycotic activity [9] and is commonly used in the management of SD where it may give comparable results to topical steroids [10].

Sertaconazole also belongs to the same class of antifungals as clotrimazole, however, it's a newer agent and has an additional anti-inflammatory property [11]. It is increasingly being used in the treatment of SD and may be the preferred agent over topical steroids as it was found to have equal efficacy and is associated with lesser side effects comparatively [12, 13].

Our study is aimed at comparing the efficacy of 1% clotrimazole cream with 2% sertaconazole cream in the management of SD.

Material and methods

Study design. This study was a multi-center randomized double blinded controlled trial with simple randomization done to divide the patients into two groups. The study was conducted according to declaration of Helsinki and written consent was obtained from all the patients.

Patients. Out of the total 78 patients screened, 60 patients who fulfilled the entry criteria were enrolled in the study and divided into two groups. 65% (39/60) and 35% (21/60) were females and males respectively with age ranging from 6–58 years (mean age: 32.88 ± 12.68 years). The clotrimazole cream group consisted 36.7% (11/30) males and 63.3% (19/30) females (mean age: 34.43 ± 10.90 years), while the sertaconazole group had 33.4% (10/30) males and 66.6% (20/30) females (mean age: 30.12 ± 12.56 years). The demographic differences were not statistically significant ($p = 0.26$). Participation was voluntary and appropriate informed consent was taken each patient.

Treatment. The first group ($n = 30$) received topical 2% sertoconazole cream for twice a day application for four weeks. The other group ($n = 30$) received 1% clotrimazole cream to be applied similarly for 4 weeks. Concealment was done in a double blinded manner. The patients who were consuming or had consumed oral steroids, antihistamines, systemic retinoids, or immunomodulator drugs within 28 days of reporting were excluded from the study or were advised to refrain from the same and report once a clearing period of 28 days was achieved if feasible. However, patients on pain killer drugs were allowed if the same was consumed intermittently for some chronic pain.

Assessment. The patients were examined by a dermatologist at 0 (baseline), 2 and 4 weeks to monitor response and any adverse effects due to the medication. The dermatologist performed a complete clinical examination and the lesions were divided into either generalized which was defined as involving >1 area or localized lesion involving single area. Itching, Erythema, scaling and subjective sebum production (graded as none-0, mild-1, moderate-2 and severe-3) along with the number and location of areas were registered for each patient separately. SD severity was assessed using Scoring Index (SI) ranking system (Koca et al) which was the sum total of all the parameters calculated at each visit of the patient i.e. at 0 (pre-treatment stage), 2 and 4 weeks, so that the patient had a new SI score at each visit which was graded as mild: 0–4, moderate: 5–8, and severe: 9–12. The patient satisfaction graded as no-change-0, mild-1, moderate-2, and good-3 response was also recorded on day 14 and 28 of initiating the treatment.

Table 1

Demographics at baseline

Variable	Sertaconazole, $n = 30$		Clotrimazole, $n = 30$		p
	abs.	%	abs.	%	
Gender:					
Men	10	33.4	11	36.7	
Women	20	66.6	19	63.3	
Age	30.12 ± 12.56		34.43 ± 10.90		0.26
Kind of lesion:					0.36
Localized	17	56.6	16	53.3	
Generalized	13	37.3	14	32.7	

Data analyses. Statistical Package for the Social Sciences (SPSS) version 16 was used for analysis. Non-parametric test Wilcoxon and Coupled *T*-test were used for the comparison between pretreatment and post-treatment results. Variance analysis test (for repeated measurements) was used for data analysis. Satisfaction rate were determined using Kappa agreed coefficients and Chi-square test. A value of was considered statistically significant by $p < 0.05$.

Results

60 patients met the entry criteria for the study. 65% (39/60) and 35% (21/60) were females and males respectively with age ranging from 6–58 years (mean age: 32.88 ± 12.68 years). They were randomized into 2 groups ($n = 30$ to topical 1% clotrimazole cream group and $n = 30$ to topical 1% sertaconazole group). The clotrimazole cream group consisted 36.7% (11/30) males and 63.3% (19/30) females (mean age: 34.43 ± 10.90 years), while the sertaconazole group had 33.4% (10/30) males and 66.6% (20/30) females (mean age: 30.12 ± 12.56 years). The demographic differences were not statistically significant ($p = 0.26$). Head was observed to be the most common target. 45% (27/60) had generalized and 55% (33/60) had localized disease (**Table 1**). The maximum frequency was consti-

Table 2

Severity Index before and after treatment

SI	Baseline				Days							
					14th day				28th day			
	Clotrimazole		Sertaconazole		Clotrimazole		Sertaconazole		Clotrimazole		Sertaconazole	
	abs.	%	abs.	%	abs.	%	abs.	%	abs.	%	abs.	%
Mild	1	3.4	1	3.4	15	50	17	56.6	17	56.6	25	83.3
Moderate	22	73.3	24	80	13	43.3	11	36.6	13	43.4	5	16.7
Severe	7	23.3	5	16.6	2	6.7	2	6.7	0	0		
Total	30	100	30	100	30	100	30	100	30	100	30	100

tuted by patients of moderate severity index (SI) in the pre-treatment stage (73.3% and 80% in the clotrimazole and sertaconazole group respectively) which improved to mild SI after treatment (56.6% and 83.3% in the clotrimazole and sertaconazole group respectively) in both the groups (**Table 2**). The relation between SI and the topical agent used was statistically significant only in the sertaconazole group (p = 0.007), while it was not so in the clotrimazole group (p = 0.27). Patient satisfaction after introducing clotrimazole cream and sertaconazole cream on 14th and 28th day of treatment is demonstrated in **Table 3**. Relation between patient satisfaction on day 14 and treatment with clotrimazole cream and sertaconazole cream didn't reveal any statistically significant difference (done using Chi-square test). 90% (27/30) and 53.4% (16/30) patients had good level of satisfaction in the sertaconazole and clotrimazole cream group on 28th day respectively. The relation was statistically significant only in the seratconazole group (p = 0.006). The follow-up period of 1-month post completion of therapy didn't show any relapse in either of the groups.

Discussion

Seborrheic dermatitis is a chronic and relapsing inflammatory dermatosis which is commonly encountered worldwide [14]. It is characterized by lesions that are usually localized to sites where sebaceous glands exist in increased number [15]. The patient usually presents with yellowish ill-defined erythematous plaques or papules with greasy scales involving the scalp, face and body folds. The predominant site and morphology may vary according to the age of presentation [16]. The role of Malassezia is well established in SD with Malassezia globosa and Malassezia restricta being the predominant species; and certain factors like stress, dry weather and cold may act as trigger 5 [17]. The treatment of SD is challenging and frustrating both for the patient as well as the treating doctor. The basic requirement of good personnel skin care practices along with soap substitution and regular moisturizer use should be emphasized [18].

Topical antifungals are usually considered the first line agents in SD [19]. Clotrimazole cream is a well-known agent used in SD. It acts by inhibiting lanosterol 14-alpha-demethylase which is a fungal enzyme required for ergosterol synthesis, thereby destabilizing the cell membrane and eventually leading to death [20]. A study by Goldust M., et al. [21] found superiority of sertaconzole cream as compared to clotrimazole cream in terms of patient satisfaction with the therapy. Attarzadeh Y., et al. [22] found clotrimazole cream to be effective in reducing pruritus, erythema and scaling and was comparable to hydrocortisone in terms of reducing scaling and superior to emu oil. The maximum frequency in our study was constituted by patients of moderate severity index (SI) in the pre-treatment stage (73.3%) in the clotrimazole group which improved to mild SI on 28th day in 56.6% patients. The relation between SI and the topical agent used was not statistically significant in the clotrimazole group (p = 0.27). The relation between satisfaction level and clotrimazole cream use on 28th day was not statistically significant.

Sertaconazole belongs to the same class and hence has the same mechanism of action as that of clotrimazole cream with good efficacy in SD. K. Balighi, et al [12] found sertaconazole to be equivalent to hydrocortisone after 4 weeks of use in SD. M. Goldust, et al. [23] also found sertaconazole to have similar efficacy to tacrolimus ointment, however, the patient satisfaction was slightly more with sertaconzole cream. Similar results were obtained when compared with pimecrolimus

Table 3

Patient satisfaction on day 14 and 28 of treatment

Level of satisfaction	Sertaconazole group				Clotrimazole group			
	14th day		28th day		14th day		28th day	
	abs.	%	abs.	%	abs.	%	abs.	%
None	2	6.6	0	0	2	6.6	0	0
Mild	3	10	1	3.4	6	20	0	0
Moderate	5	16.6	2	6.6	9	30	14	46.6
Good	20	66.6	27	90	13	43.3	16	53.4
Total	30	100	30	100	30	100	30	100

cream and ketoconazole cream [24, 25]. The maximum frequency was constituted by patients of moderate severity index (SI) in the pre-treatment stage (80%) in sertaconazole group which improved to mild SI after treatment in 83.3% of patients. The relation between SI and sertaconazole cream use was statistically significant ($p = 0.007$). 90% (27/30) had good level of satisfaction in the sertaconazole group on 28th day which was statistically significant ($p = 0.006$). The follow-up period of 1-month post completion of therapy didn't show any relapse in either of the group.

Conclusion

Both topical 1% clotrimazole cream and topical 2% sertaconazole cream may be regarded as effective therapies in SD with topical 2% seratconazole cream performing better as compared to topical 1% clotrimazole cream in terms of efficacy and acceptability by the patients.

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