Chronic Diseases Journal

Effectiveness of topical Clinda Soap in the treatment of acne vulgaris

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Original Article

Abstract

BACKGROUND: A variety of drugs can be used for the treatment of acne vulgaris. Every medicine acts against one or some of the mechanisms of the pathogenesis of acne vulgaris. This study was conducted to assess the therapeutic effect of Clinda Soap in the treatment of acne vulgaris.

METHODS: This randomized, double-blind, clinical trial included 82 patients (age: 15-35 years) with mild to moderate acne vulgaris. The study protocol was approved by the ethics committee of Kurdistan University of Medical Sciences (Sanandaj, Iran). The patients were randomized into two groups to receive the standard treatment for acne vulgaris with either Clinda Soap (containing clindamycin hydrochloride 1%, manufactured by Shadakish Company, Iran) or a placebo soap. Both the intervention and control groups were asked to apply soaps twice daily for three months. Monthly examinations were performed by a dermatologist to ensure proper use of the soaps and to assess the rate of recovery and possible complications. Data was analyzed using repeated measures analysis of variance in SPSS.

RESULTS: The mean age of patients was 21.1 ± 4.7 years in the intervention group and 21.5 ± 4.8 years in the control group. The mean duration of the disease was 3.0 ± 1.5 and 3.1 ± 1.8 months in the intervention and control groups, respectively. The mean number of comedones in the two groups had no significant difference at any monthly visit. In contrast, at all visits, significantly fewer papules and pustules were observed in the intervention group than in the control. Significant intra-group and inter-group differences in the number of inflammatory lesions (papules and pustules) were also seen.

CONCLUSION: In general, it can be concluded that Clinda Soap is effective in the treatment of acne vulgaris. The recovery rate of papules and pustules was higher than that of comedones. Easy application of this soap together with its low cost and few adverse effects will increase patients' compliance.

KEYWORDS: Acne Vulgaris, Clinda Soap, Treatment

Date of submission: 27 Oct 2012, ***Date of acceptance:*** 31 Jan 2013

Citation: Rad F, Mirbagheri M, Pakdaman MH, Yaghmaee R, Gharibi F. **Effectiveness of topical Clinda Soap in the treatment of acne vulgaris.** Chron Dis J 2013; 1(1): 1-6.

Introduction

Acne vulgaris, a common inflammatory disease of pilosebaceous units, is experienced by 80% of adolescents. Increased sebaceous gland secretion, obstruction of pilosebaceous ducts, release of mediators of inflammation, and bacterial colonization are mechanisms involved in the pathogenesis of acne vulgaris. Propionibacterium acnes (P. acnes), a Gram positive anaerobic bacterium, is the dominant microorganism which colonizes pilosebaceous units.[1]

Acne vulgaris often starts in early adolescence

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and its onset is earlier in girls.[2] Its greatest frequency is seen in 14-17-year-old girls and 16-19-year-old boys.[3] Acne is of significance as it is highly prevalent in young adults and its complications such as scarring and poor self-image can lead to anxiety, depression, and social withdrawal.[4,5]

While a variety of medications are available for the treatment of acne, each medicine targets one or some of the factors involving in the pathogenesis of acne. They act through reversing hypercornification of sebaceous ducts, decreasing sebum production, reducing follicular bacteria (in particular P. acnes), or decreasing inflammatory mediators by inhibiting bacterial growth.[6,7] Several topical and systemic medications are used for the treatment of acne. Systemic therapy includes antimicrobial agents, hormone preparations, and isotretinoin. Selection of therapy depends on the clinical variant and severity of acne and previously applied treatments.[8-10] Although systemic and topical antimicrobial preparations have been commonly used to cure inflammatory acne,[11,12] the emergence of resistant microorganisms (particularly P. acnes) has caused some problems in the treatment of acne. Therefore, the use of effective non-antimicrobial preparations should be taken into consideration. Nicotinamide gel has potent anti-inflammatory properties and its use does not promote the emergence of resistant strains of microorganisms.[4]

Systemic antibiotics, especially tetracycline have been used as the treatment of choice for the treatment of acne vulgaris for many years. Long-term use of tetracycline is often associated with gastrointestinal complications. However, application of topical medications brings about fewer side effects.[10] Evaluation of therapeutic responses and finding proper therapeutic regimens in different populations with different genetic and racial characteristics will be valuable for the treatment of acne. Since efficient therapeutic regimens with few side effects are preferred by most dermatologists, we investigated the effects of Clinda Soap (manufactured by Shadakish Co., Iran) on the treatment of acne vulgaris.

Materials and Methods

This randomized, double-blind study was conducted in Besat Hospital (Sanandaj, Iran) from August 2011 to August 2012. It included 106 patients (age: 15-25 years) with mild to moderate acne vulgaris. The severity of acne was determined according to the Global Acne Grading System.[13] Patients with any chronic disease or polycystic ovary syndrome, pregnant and lactating women, patients who had used topical or systemic antibiotics within 30 days before the intervention, and those using acnegenic drugs such as vitamin B_{12}, steroids, anti-tuberculosis drugs, lithium, and phenytoin were excluded from the study.

The study was approved by the ethics committee of Kurdistan University of Medical Sciences (Sanandaj, Iran). It was also registered at Iranian Registry of Clinical Trials (IRCT) with the registration number of IRCT 20100925480n1.

After obtaining informed consent from the patients, block randomization was used to allocate the participants to either intervention (n = 50) or control group (n = 50). Both the patients and the dermatologist were blinded to the grouping and the appearance of the placebo and Clinda Soap were similar. As the standard acne treatment, the two groups received 250 mg oral tetracycline every six hours. The intervention group was instructed to wash the affected areas of the skin with warm water and Clinda Soap and let the lather remain on the skin for three minutes, twice daily, for 12 weeks. Clinda Soap contains clindamycin hydrochloride 1% and has neutral pH. The control group was asked to perform a similar procedure with placebo soap. All patients were visited by our dermatologist every month for three months. Inflammatory lesions (papules and pustules) and non-inflammatory lesions (comedones) were counted and recorded at baseline and every visit.

A total of 24 patients were excluded from the

study because of lack of cooperation, planning for pregnancy, and drug adverse effects. Finally, 82 patients (39 in the intervention group and 43 in the control group) completed the treatment course. The data was analyzed with SPSS for Windows (version 16.0, SPSS Inc., Chicago, IL, USA). Since the lesions were counted for four times during the treatment course, we used repeated measures analysis of variance to compare the data (The whole process of the study is summarized in Figure 1).

Results

The mean age of the intervention and control groups was 21.1 ± 4.7 and 21.5 ± 4.8 years, respectively. The two groups were similar in the mean duration of the disease (3.0 ± 1.5 months in the intervention group and 3.1 ± 1.8 months in the control group). Sex distribution, family history of acne, and severity of the disease were also similar in the two groups (Table 1).

At the end of the study, there was no significant difference between the two groups in regard to the number of comedones (P = 0.85) (Table 2). In contrast, significantly better recovery rate of papules and pustules was observed in the intervention group (Tables 3 and 4).

Discussion

In our study, the intervention and control groups were matched for demographic characteristics (age, gender, occupation, and severity, duration, and family history of acne). Moreover, no significant differences in clinical variants of acne

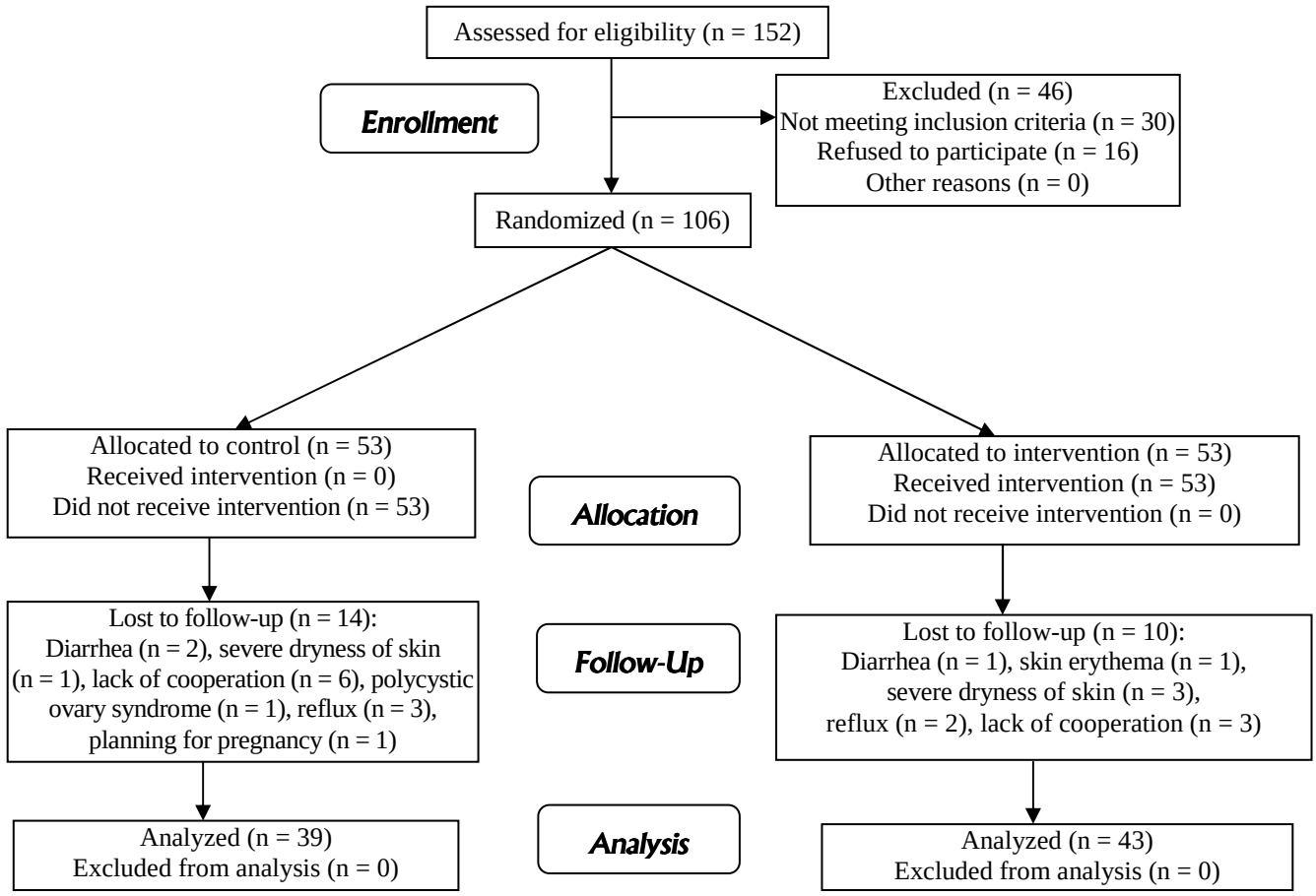

Figure 1. The consort flowchart of the study

Table 1. Demographic and disease-related characteristics of the participants

Variables		Control group	Intervention group	P
Gender	Male	15 (53.6)	13 (46.4)	0.88
	Female	28 (51.9)	26 (48.1)	
Severity of acne	Mild	9 (52.9)	8 (47.1)	0.96
	Moderate	34 (52.3)	31 (47.7)	
Family history	Positive	18 (51.4)	17 (48.6)	0.94
	Negative	25 (53.2)	22 (46.8)	

Values are n (%).

Table 2. The mean number of comedones in the intervention and control groups at different times of treatment course

	Baseline	First month	Second month	Third month
Control group	12.45 ± 4.27	8.83 ± 3.46	6.29 ± 3.27	4.42 ± 2.86
Intervention group	13.11 ± 5.01	8.91 ± 4.57	6.28 ± 3.69	4.37 ± 2.80

Table 3. The mean number of papules in the intervention and control groups at different times of treatment course

	Baseline	First month	Second month	Third month
Control group	9.64 ± 3.83	7.05 ± 3.49	5.15 ± 2.86	2.46 ± 2.67
Intervention group	10.40 ± 4.69	5.04 ± 3.49	2.70 ± 2.48	1.09 ± 1.51

Table 4. The mean number of pustules in the intervention and control groups at different times of treatment course

	Baseline	First month	Second month	Third month
Control group	4.16 ± 1.93	2.83 ± 1.29	2.10 ± 1.35	1.33 ± 0.99
Intervention group	3.81 ± 1.94	1. 46 ± 1.12	0.72 ± 0.99	0.24 ± 0.49

and type and number of lesions (comedones, inflammatory papules, and pustules) were detected between the two groups before the intervention. The two groups were not significantly different in the number of closed comedones at any of the follow-up visits. However, at all visits, fewer papules and pustules were observed in the intervention group than in the control group.

Several different medications such as antimicrobial agents, hormone preparations, oral retinoids, steroids, and topical salicylic acid have been suggested for the treatment of acne vulgaris.[5] In a review article, Del Rosso and Schmidt pointed out that the anti-inflammatory effect of clindamycin has received considerable attention as an essential mechanism for the treatment of acne in the last three decades.[14]

Our evaluations showed that the number of all types of lesions had a decreasing trend in both groups during the treatment. Significantly greater reduction in the number of inflammatory lesions (papules and pustules) was seen in the intervention group. As this difference was more significant for pustules, it can be concluded that Clinda Soap was more effective in the treatment of pustules in comparison to other types of acne lesions. Contrariwise, no significant difference in the number of comedones was detected between the two groups.

In an eight-week study, Shalita et al. found that nicotinamide gel and clindamycin gel did not cause significantly different reductions in the mean number of acne lesions (-14.1 vs. -12.3).[10] These findings are in accordance with the results of our study.

Cunliffe et al. conducted a clinical trial to compare the effects of a topical clindamycin/zinc gel and a topical clindamycin lotion in 246 patients with mild to moderate acne. They concluded that both drugs had similar therapeutic effects.[15] In a study in

Germany, Zouboulis et al. found higher and faster recovery after using a fixed clindamycin phosphate/tretinoin gel than after the application of a clindamycin lotion (Dalacin).[16] NilFroushzadeh et al. reported significantly different reduction in the severity of acne following the use of clindamycin phosphate and salicylic acid lotion, clindamycin phosphate and tretinoin lotion, and clindamycin lotion.[17] Pazoki-Toroudi et al. concluded that the combination of clindamycin and azelaic acid is more effective than either clindamycin or azelaic acid alone.[18] Draelos et al. showed that use of clindamycin phosphate/tretinoin gel together with 4% benzoyl peroxide wash was effective in the treatment of acne. They also found good medication compliance in the patients with acne vulgaris.[19]

Conclusion

The results of this study indicated that Clinda Soap is effective in the treatment of lesions of acne vulgaris, particularly papules and pustules. Considering its low cost, easy use, and few side effects, compliance with this treatment is expected to be favorable.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

We wish to thank the patients and the Deputy of Research of Kurdistan University of Medical Sciences for their support and cooperation.

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