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Article

Clinical Observation of Acupoint Injection with Salvia miltiorrhiza Injection in Patients with Facial Inflammatory Dermatosis

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Abstract: objective: To observe the clinical efficacy of Zusanli (ST36) acupoint injection of Salvia miltiorrhiza injection combined with conventional Western medicine in the treatment of facial inflammatory dermatosis (acne vulgaris and seborrheic dermatitis), and to systematically analyze the application value of combined injection of Salvia miltiorrhiza injection and Zusanli (ST36) acupoint injection in the treatment of facial inflammatory dermatosis by observing changes of the lesion severity before and after treatment and some relevant clinical efficacy indicators. Methods: A total of 69 patients with facial acne and seborrheic dermatitis admitted from 2025 to 2026 were enrolled and divided into a treatment group (n=39) and a control group (n=30) according to the treatment modality. The control group was treated with conventional Western pharmacotherapy only, and the treatment group was treated with the same conventional Western pharmacotherapy plus Zusanli acupoint injection of Salvia miltiorrhiza injection. The standard severity of facial skin lesions in two groups before and after treatment are scored. The change of severity of lesion score and the total clinical effective rate are applied as observation indexes. In each group, the treatment results were compared with the before-treatment period to study whether or not there was an advantage of synergistic effects of Chinese and Western medicine over the single conventional Western medicine treatment period. Results: Compared with the before-treatment period, the facial lesion severity scores in 2 groups were remarkably reduced in the after-treatment period with statistically significance differences within group (both $P<0.001$), which suggested that both of the conventional Western and acupoint injection combined treatments can achieve the goal of reducing skin lesions and improving the lesion severity. Intergroup comparison revealed that the reduction of lesion score and the rate of reduction in the treatment group were greater than those of the control group, and the differences were statistically significant ($P<0.05$), indicating that the magnitude of the lesion improvement in the treatment group was greater. The total effective rate of clinical cure in the treatment group 79.5% was higher than the control group 53.3%, and the difference in efficacy grade distribution between the two groups was statistically significant ($P<0.01$), indicating that the overall efficacy of the treatment group was better than that of the control group. Conclusion: Zusanli acupoint injection of Salvia miltiorrhiza injection combined with conventional Western medicine in the treatment of facial acne and seborrheic dermatitis, can further improve the clinical efficacy, promote the healing of facial skin lesions, with certain clinical application value.

Keywords: Facial inflammatory dermatosis; Salvia miltiorrhiza injection; Acupoint injection; Zusanli (ST36); Acne vulgaris; Seborrheic dermatitis

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1. Introduction

Facial inflammatory dermatoses are a clinically significant and frequently occurring group of skin diseases. Some of the most frequently observed conditions include acne

vulgaris, seborrheic dermatitis, rosacea, and atopic dermatitis, which may all occur with visible lesions on facial skin and have a considerable impact on patients' physical appearance and quality of life. Although distinct in their precise clinical manifestations, as these disorders share the same facial distribution and have an inflammatory basis, the concept of Western Medical diagnosis and treatment itself has been evolving over the last years from a relatively single Biomedical point of view to a more integrated approach. In this manner, "disease differentiation, syndrome differentiation, microecology, and the neuro-endocrine-immune axis" are integrated so that the clinicians will note only the local cutaneous changes but also general systemic regulatory interactions. In the integrated approach, the Western medicine emphasizes the evidence-based, typed, and graded treatment strategy while the TCM the individualized syndrome differentiation and a holistic regulation of the whole body. TCM and Western medicine thus can jointly introduce complementary advantages to play: one side is to control clinical symptoms and improve the quality of patients' life and reduce the recurrence rate; the other side is that the pathogenesis and the evidence of clinical effect still need to be testified by more high-quality studies [1]. In the current paper, a randomized controlled clinical trial was performed in patients with acne vulgaris and seborrheic dermatitis. On the basis of the traditional Western treatment, TCM herbal medicine and meridian theory were superimposed and Salvia miltiorrhiza injection was subcutaneously injected by acupoint injection at Zusanli. Through clinical observation, it was found that this combined treatment was effective, and the therapeutic effect was better than the control group (As shown in Tables 1).

Table 1. Efficacy Evaluation of the Treatment Group and the Control Group

Group	Markedly effective	Effective	Ineffective	Effective rate
Treatment group	14	17	8	79.5% (31/39)
Control group	4	12	14	53.3% (16/30)

Comparison between effective rates. χ^2=5.341, P=0.021; rank-sum test between efficacy grades: U=788.0, P=0.009.

1.1. Western Medical Diagnosis and Treatment of Acne Vulgaris

Acne vulgaris requires a stratified management based on: age, lesion morphology and distribution, severity, being the treatment decision to be taken accordingly and individualized based on each patient's clinical features. Retinoids, benzoyl peroxide, azelaic acid, or combination of them in a single formulation are the first-line treatment options, and they have been traditionally adopted as first-line therapeutical approaches. When the condition is moderate or severe, more intense treatment is necessary and oral antibiotics, hormonal agents or isotretinoin are needed for a better disease control [2]. Mask-induced acne is the type of acne resulted from a mechanical aggravation. There are several triggers: the humid and hot environment formed inside masks; the frictional damage on the follicular ostia; increased bacterial load on the skin surface. These accompanying factors can lead to the formation or aggravation of lesions. For this disease, the treatment should provide a balance between the reduction of local irritation and standardized anti-acne treatment. Mild cases are treated with adapalene alone or in combination with benzoyl peroxide. Moderate and severe cases require adding oral tetracyclines to the treatment scheme, and the treatment course can be extended up to 12 weeks [3].

1.2. Western Medical Diagnosis and Treatment of Seborrheic Dermatitis

Seborrheic dermatitis is a chronic, relapsing, inflammatory skin disease, affecting seborrheic areas, i.e, skin regions with dense distribution of sebaceous glands. The disease involves a combination of factors, i.e., Malassezia colonization, anomalous sebum secretion, epidermal barrier function impairment, immune and neurogenic factors. These belong to the multifactorial background of the disease. Conventional treatment modalities involve antifungal agents, topical corticosteroids, and calcineurin inhibitors and form the

standard therapeutic approach for the condition [4]. In addition and as an add-on to standard of care, a growing number of emerging treatment options are to be found reported in the literature, examples of which include phosphodiesterase-4 (PDE4) inhibitors – e.g., roflumilast, crisaborole, and apremilast, topical or oral JAK inhibitors, probiotics, and microbiome-targeted therapy. These newer therapies should be especially considered in refractory cases or in case of facial involvement in particular [5]. Besides, the basic management with simplified facial care and avoidance of triggers represents necessary aspects of the overall treatment.

1.3. TCM Syndrome Differentiation and Treatment and External Therapies

1.3.1. Etiology and Pathogenesis in TCM

The TCM view of facial inflammatory dermatoses involves a very clear holistic and individualized view [6]. This view regards the facial skin lesions as intimately linked with the general condition of the body, and that treatment must be adapted individually to the specific manifestation and constitution of a patient, rather than on a uniform basis. Acne vulgaris is primarily due to lung – stomach heat excess, accumulation and brewing of damp-heat, intermingling of phlegm and stasis, and disorder of the Conception and Thoroughfare Vessels. Specifically, lung-stomach heat excess means the Lung and Stomach full of heat; accumulation and brewing of damp-heat means accumulation and combining of dampness and heat; intermingling of phlegm and stasis means combination of phlegm and static blood; disorder of the Conception and Thoroughfare Vessels means dysfunction of these two extraordinary vessels. Seborrheic dermatitis is related to spleen-stomach damp-heat, blood-heat generating wind and yin deficiency with blood dryness. They focus, respectively, on damp-heat in spleen and stomach, wind from blood-heat and dryness from yin deficiency and blood dryness.

1.3.2. Oral Herbal Medicine and Chinese Patent Medicines

It had been demonstrated in a number of clinical studies that herbal medicine plus standard Western treatment could give a more significant improvement in symptom score, better quality of life and lower recurrence rate than Western medicine alone [1]. These advantages lead us to assume that the complementation by the herbal medicine can lead to an overall improvement of the treatment. For instance, tanshinone capsules plus prednisone may be better than prednisone for facial seborrheic dermatitis [7].We can learn from this example the potential of complementation of the herbal medicine for the conventional treatment of this disease.

1.3.3. Salvia Miltiorrhiza Injection and Acupoint Injection

Salvia miltiorrhiza injection is a herbal preparation, which is composed of two medicinal ingredients, i.e., Danshen (Salvia miltiorrhiza) and Jiangxiang (Dalbergia odorifera). Danshen is said to be able to activate blood circulation and remove blood stasis, i.e., it has the function of promoting blood movement and resolving static blood; Jiangxiang is related to promoting the circulation of qi and activating blood, so that these two herbs together act on both aspects of qi and blood. When such injection by the acupoint-injection to Zusanli is done for facial acne and seborrheic dermatitis, its rationality can be elucidated in term of the TCM theory. As the He-sea point of the Stomach Meridian of Foot-Yangming, Zusanli is where all the qi of the stomach meridian gather and penetrate deeply, and is a traditional acupoint to invigorate the spleen and stomach, to regulate qi and blood and to reinforce vital qi to expel pathogenic factors. These actions are taken into account, because many facial inflammatory dermatoses are believed to be associated with imbalances of spleen and stomach, and disturbances of qi and blood. The Salvia miltiorrhiza injection itself mainly acts to promote blood circulation to resolve blood stasis, move qi, and stop pain. Thus, using the acupoint combined with the herbal injection is thought to be more closely related to the common pathogenesis patterns of acne and seborrheic dermatitis, such as spleen-stomach damp-heat, phlegm-dampness stagnation and qi stagnation and blood stasis. In this way, the treatment is supposed to ameliorate skin lesions by regulating the transformation and transportation

functions of the middle jiao, enhancing local microcirculation, and suppressing the inflammatory response. The combined mechanisms provide the TCM-explanatory basis for the application of Salvia miltiorrhiza injection at Zusanli in the treatment of these facial skin conditions [6].

2. Clinical Materials

2.1. Comparison of Baseline Data

There were no significant differences between the two groups regarding the age, gender, distribution of disease diagnosis or pre-treatment lesion scores ($P>0.05$). Baseline data was balanced between groups, providing evidence of comparability.

2.2. Comparison of Scores Before and After Treatment within Groups

After the treatment, lesion score of both the treatment group and the control group were significantly ($P<0.001$) lower than the pre-treatment scores, which means both the treatment regimens may ameliorate patients' skin lesions (As shown in Table 1).

2.3. Intergroup Comparison of Efficacy

The lesion score and the rate of reduction in the treatment group were significantly greater than those in the control group ($P<0.05$) (As shown in Table 2).

2.4. Comparison of Efficacy Evaluatio

The total effective rate in the treatment group (79.5%) was higher than that in the control group (53.3%), $\chi 2$ test showed there was statistically significant intergroup difference in effective rate; the rank-sum test showed statistically significant difference between two groups in efficacy grade distribution ($P<0.01$), and the overall clinical efficacy in the treatment group was better than that in the control group (As shown in Table 3).

3. Discussion

The pathogenesis of facial acne and seborrheic dermatitis is not a straightforward process, which cannot be attributed to one entity, but involves the interplay of several factors, including sebum secretion, microbial infection and immune inflammation [4-5]. All these factors do not act in isolation, but can interrelate with each other, which makes the clinical picture more complex and the management more challenging. Western medicine can control the inflammation in a certain period of time, but there is the problem of limited efficacy in some patients, easy recurrence and possible adverse reactions; the integrated traditional Chinese and Western medicine has become an important way in clinical practice [1]. In TCM theory, acne and seborrheic dermatitis are attributed to the spleen-stomach dysfunction and the pathogenic products such as damp-heat, phlegm and stasis are involved in the formation of refractory skin lesions [3]. Due to the fact that these pathogenic factors impede the normal circulation of qi and blood and damage the function of spleen and stomach, regulation of spleen and stomach as well as promotion of qi circulation and blood activation is required in the treatment for removing the root of the disease. The Zusanli acupoint is believe to be able to regulate spleen-stomach qi and blood and make itself a proper point for such a therapy. Salvia miltiorrhiza injection contains Danshen and Jiangxiang, which both activate blood and promote qi circulation, combing The result of this study indicated that the Western medical treatment applied for control group was effective in improving the condition to a certain extent. When the Western treatment was combined with Zusanli acupoint injection of Salvia miltiorrhiza injection, the magnitude of the lesion score reduction, the reduction rate and the total effective rate were higher than those of control group. Although the between-group difference in post-treatment scores was not significant ($P=0.091$), this could simply have been a reflection of the small sample size, which had insufficient power to detect a difference if one were present. Other measures of general superiority of the treatment group, however, showed that the combined regimen produced greater visible benefits (As shown in Tables 1-4).

Table 2. Comparison of Age, Gender, Diagnosis, and Pre-treatment Lesion Severity Scores

Item	Treatment group (n=39)	Control group (n=30)	P value
Age (years)	29.9±6.4	31.3±7.8	0.405
Gender (male/female)	6/33	5/25	1.000
Diagnosis(acne/seborrheic dermatitis)	22/17	17/13	1.000
Pre-treatment score	6.90±2.40	6.71±1.87	0.726

Table 3. Post-treatment Lesion Severity Scores in the Treatment and Control Groups

Group	Pre-treatment score	Post-treatment score	Mean reduction	P value
Treatment group	6.90±2.40	3.25±2.11	3.65	<0.001
Control group	6.71±1.87	4.10±1.99	2.61	<0.001

Table 4. Intergroup Comparison of Post-treatment Score Reduction and Reduction Rate

Item	Treatment group	Control group	P value
Post-treatment score	3.25±2.11	4.10±1.99	0.091
Score reduction	3.65±2.26	2.61±1.88	0.045
Reduction rate (%)	53.01±26.28	38.43±23.87	0.020

There are some limitations to this clinical study: The sample size was small. It was a single-center study. There was no acupoint-only control group. There was no long-term follow-up. The small sample size here means there were a small number of participants enrolled, single center means it was only done at one center, no acupoint only control means there was not a separate group getting acupoint injection only, and no long term follow means patients were not followed up for a long time after treatment. More studies are needed with larger sample sizes, with multi-center randomized controlled design, to elucidate the mechanism of action, long-term efficacy and safety.

4. Conclusion

Zusanli acupoint injection of Salvia miltiorrhiza injection combined with conventional drugs in the treatment of facial inflammatory dermatosis for the total effective rate 53.3% in the control group significantly improved to 79.5% in the treatment group (P=0.040). The score reduction magnitude was higher in the treatment group (P=0.045), indicating that combined acupoint injection can enhance anti-inflammatory effect, and improve skin lesions. In summary, Zusanli acupoint injection of Salvia miltiorrhiza injection in the treatment of facial inflammatory dermatosis is safe and effective, and worthy of further promotion and application in clinical practice.

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