

Evaluation of the Effect and Efficiency of Ear Tip Bloodletting Combined with Xianfang Huoming Yin in the Treatment of Early-Stage Wheals

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Abstracts: *Objective:* To evaluate the effect and efficiency of ear tip bloodletting combined with Xianfang Huoming Yin (XFH) in the treatment of early-stage wheals. *Methods:* 70 patients with early-stage wheals admitted from September 2020 to September 2022 were divided into two groups by randomized numerical table method, with 35 cases/group. Both groups received conventional treatment, the control group combined with XFH, and the observation group combined with ear tip bloodletting therapy and XFH. Conscious symptom scores, ocular indexes, therapeutic effects, and sleep quality between the two groups were compared. *Results:* After the treatment, the patients in the observation group had lower self-awareness symptom scores and sleep quality scores as compared to those in the control group; the diameter of the mass in the observation group was smaller than that of the control group after treatment; the average tear film rupture time and the time taken for the first non-contact tear film to rupture were longer in the observation group than those in the control group; the total effective rate of the treatment in the observation group was higher than that of the control group ($P < 0.05$). *Conclusion:* Ear tip bloodletting combined with XFH was ideal for the treatment of early-stage wheals and has a high effective rate.

Keywords: Early stage of wheal; Ear tip bloodletting; Xianfang huoming yin; Effective rate

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1. Introduction

The main symptoms of wheals include redness, swelling, heat, and pain in the eyelid. It first grows as a hard knot on the edge of the eyelid, slowly forming pus, which can be cured by puncturing the pus spot to clear out the infected area ^[1]. However, this method often results in scarring, and the early stage of wheal can develop into orbital cellulitis in severe cases if not treated in time, and can even cause sepsis ^[2]. Traditional Chinese medicine (TCM) has many years of experience in the treatment of early-stage wheals, such as Xianfang Huoming Yin (XFH), which has multiple effects such as reducing swelling and dispersing knots, clearing heat and removing toxins, etc. ^[3] with precise efficacy, rapid onset of action, and is convenient. Ear tip bloodletting therapy is a form of acupuncture technique. The ear is a collection of assembled meridians. As the meridians of

the ear tip and the body organs are closely connected, ear tip bloodletting can eliminate stiffness and dissipate knots, heat, and toxins. This study analyzed the effect of bloodletting from the tip of the ear combined with XFH for the treatment of early-stage wheals and the effectiveness of the treatment. The specific content is shown below.

2. Information and methods

2.1. Data

70 cases of early-stage wheal patients were selected as the subjects of this study (admission time: September 2020 to September 2022) and were divided into the control group and observation group of 35 cases each by the method of the randomized numerical table.

The control group consisted of 17 males and 18 females aged 15–57 with a mean age of 35.20 ± 10.13 years; the duration of disease was 1–4 days with an average of 1.31 ± 0.25 days. There were 19 cases of wheal on the left eye and 16 cases on the right eye, including 15 cases of internal wheal, and 20 cases of external wheal. The observation group consisted of 16 males and 19 females aged 16–58 with a mean age of 35.32 ± 10.24 years; the duration of the disease was 1–3 days with an average of 1.40 ± 0.21 days. There were 20 cases of wheal on the left eye and 15 cases on the right eye, including 13 cases of internal wheal, and 22 cases of external wheal. The data of the two groups were compared and had significant differences ($P > 0.05$).

Inclusion criteria: (1) Meet the Chinese and Western medicine diagnostic criteria for early-stage wheals; (2) monocular onset; (3) consented; (4) good treatment compliance; (5) complete clinical data.

Exclusion criteria: (1) combined with serious primary diseases, infectious diseases; (2) the existence of coagulation dysfunction; (3) the existence of contraindications to treatment; (4) the use of immunosuppressants, hormonal drugs, antibiotics, etc. in the last half month; (5) in the process of lactation or pregnancy.

2.2. Methods

Both groups received conventional treatment: local hot compresses, antibiotic eye ointment, and eye drops.

The control group received XFH along with conventional treatment. The basic formula of XFH: 10 g each of gardenia, soapberry, smallpox pollen, Chekiang fritillary bulb, red peony, chenpi, dahurica, *Saposhnikovia radix*, honeysuckle, and 5 g of roasted licorice. Dialectical additions and subtractions: for those with obvious signs of heat, ingredients that provided heat-clearing and detoxification were increased, such as dandelion and Chinese violet, etc. All medicinal herbs were soaked in water for 30 minutes and decocted for 20 min over high heat. The water changed and the formula was decocted for another 10 min. The XFH was taken in half portions after meals, once in the morning and once in the afternoon.

The observation group received ear tip bloodletting therapy along with conventional treatment. By assuming a sitting position, both sides of the helix were folded toward the tragus and disinfected. A disposable sterile injection needle was used to poke the tip of the auricle to facilitate bloodletting, where the needle was inserted vertically to a depth of 1–2 mm. Blood was forced out of the insertion point by light squeezing to obtain approximately 1 ml of blood. Once done, a sterile gauze was used to stop the bleeding, and pressure was applied to the affected area. This treatment was carried out once a day for three consecutive days.

2.3. Observation indexes

The changes in conscious symptoms before and after treatment of the two groups of patients were compared. According to the self-assessment method of Chinese medicine points, the assessed symptoms include conjunctival congestion, eye itching, eyelid redness, and swelling, with a score of 0 indicating “no symptoms,”

2 being “mild,” 4 being “moderate” and 6 being “severe.”

The ocular indicators between the two groups before and after treatment were compared, including the diameter of the mass, the time taken for the first non-contact tear film to rupture, and the average tear film rupture time.

The treatment effects between the two groups were compared [4]. When symptoms of pain, fever, subcutaneous nodules, and conjunctival congestion disappeared after treatment, the efficacy index was above 95%, representing “cured”; when the symptoms were relieved, the subcutaneous nodules were painless, and the conjunctiva was slightly congested, the efficacy index ranged from 70–94%, representing “mildly effective.”; when the symptoms were relieved, the subcutaneous nodules were slightly painful when touched, and the conjunctiva was moderately congested, the efficacy index falls between 50–69%, representing “effective”; the efficacy index was said to be “ineffective” if it fails to meet the above standards. The total effective rate was determined by the addition of all three indexes except “ineffective.”

The sleep quality of the two groups was compared. The Pittsburgh Sleep Quality Index (PSQI) [5] was used to evaluate the quality of sleep with a score of 0–21. A higher score indicated a poorer sleep quality.

2.4. Statistical methods

The SPSS 25.0 statistical software was used for analysis and all measurement data were expressed as mean \pm standard deviation; count data were expressed as [n (%)] and compared using t-tests and chi-square (χ^2) tests. Results were considered statistically significant at $P < 0.05$.

3. Results

3.1. Self-conscious symptom score

As shown in **Table 1**, each self-conscious symptom integral was higher in both groups before treatment ($P > 0.05$); after treatment, each symptom integral in the observation group was lower than that of the control group ($P < 0.05$).

Table 1. Self-conscious symptom integral (mean \pm standard deviation, points)

Group	Case, <i>n</i>	Conjunctival congestion		Itchy eyes		Swollen eyelids	
		Pre-treatment	Post-treatment	Pre-treatment	Post-treatment	Pre-treatment	Post-treatment
Control	35	3.25 \pm 0.21	1.40 \pm 0.18	3.55 \pm 0.53	1.41 \pm 0.26	4.23 \pm 1.10	1.61 \pm 0.31
Observation	35	3.28 \pm 0.19	1.05 \pm 0.14	3.59 \pm 0.51	1.12 \pm 0.23	4.28 \pm 1.09	1.18 \pm 0.19
<i>t</i>	-	0.627	9.080	0.322	4.942	0.191	6.997
<i>P</i>	-	0.533	0.000	0.749	0.000	0.849	0.000

3.2. Ocular indicators

As shown in **Table 2**, the differences between the 3 ocular indexes of both groups before treatment were insignificant ($P > 0.05$); after treatment, the diameter of the mass in the observation group was smaller, and the average tear film rupture time and the time taken for the first non-contact tear film rupture were longer as compared to the control group ($P < 0.05$).

Table 2. Ocular indicators (mean ± standard deviation, points)

Group	Case, n	Lump diameter (mm)		Mean tear film breakup time (s)		Time for the first non-contact tear film to rupture (s)	
		Pre-treatment	Post-treatment	Pre-treatment	Post-treatment	Pre-treatment	Post-treatment
Control	35	4.99 ± 0.63	2.21 ± 0.18	4.31 ± 1.12	6.13 ± 1.25	2.59 ± 0.38	3.20 ± 0.51
Observation	35	4.97 ± 0.58	1.03 ± 0.10	4.27 ± 1.15	8.01 ± 1.34	2.63 ± 0.25	4.49 ± 0.31
<i>t</i>	-	0.138	33.903	0.147	6.069	0.520	12.787
<i>P</i>	-	0.891	0.000	0.883	0.000	0.605	0.000

3.3. Treatment effect

As shown in **Table 3**, the total effective rate of treatment in the observation group was higher than that of the control group ($P < 0.05$).

Table 3. Treatment effect [n (%)]

Group	Case, n	Cured	Mildly effective	Effective	Ineffective	Total effective rate
Control	35	12 (34.29)	10 (28.57)	7 (20.00)	6 (17.14)	29 (82.86)
Observation	35	20 (57.14)	12 (34.29)	2 (5.71)	1 (2.86)	34 (97.14)
χ^2	-	-	-	-	-	3.968
<i>P</i>	-	-	-	-	-	0.046

3.4. Sleep quality score

As shown in **Table 4**, the sleep quality scores of both groups were higher before treatment ($P > 0.05$); after treatment, the sleep quality scores of the observation group were lower than those of the control group ($P < 0.05$).

Table 4. Sleep quality score (mean ± standard deviation, points)

Group	Case, n	Pre-treatment	Post-treatment
Control	35	16.25 ± 2.21	10.13 ± 1.15
Observation	35	16.31 ± 2.18	7.52 ± 1.16
<i>t</i>	-	0.114	9.453
<i>P</i>	-	0.909	0.000

4. Discussion

Eyelid abscesses can occur at any age but mainly occur in young people. This disease is mostly caused by bacterial infection, where the early stage of the disease can cause redness, swelling, hard nodules, eyelid congestion, and other symptoms. As the disease progresses, the hard nodules gradually soften and form abscesses. After the removal of pus, the redness, swelling, pain and other symptoms can be relieved, but the causative organisms have a strong virulence. This causes the spread of inflammation to the whole eyelid before the pus is discharged^[6], resulting in the formation of eyelid abscesses. Erythroderma is prone to recurrent episodes and requires prompt treatment, otherwise, it may leave scarring at the eyelid, which damages the external aesthetics and also affects the patient's quality of life.

According to Chinese medicine, wheals should be included in the category of "pinhole," which originates

from the Treatise on the Origin and Circumstances of Various Diseases and is related to spleen and stomach disharmony, dietary disorders, and physical weakness^[7]. The eyelid is made of skin and muscle coupling tissue, which is the place where the Ying and Wei converge. Due to the external attack of wind, coupled with the accumulation of heat in the spleen and stomach, resulting in the disharmony of Ying and Wei, causing redness, swelling, heat, and pain. Hence, treatment should emphasize purifying the spleen and removing heat to relieve the epidermis and regulate the Ying and Wei^[8,9]. XFH is known to be the first prescription of surgery, the holy medicine of sores^[10], facilitates blood flow, relieves pain, eliminates swelling, and detoxifies the body. It is commonly used in the treatment of mastitis, suppurative tonsillitis, and other suppurative inflammation. During early stages of emphysema treatment, the formula of gardenia, dahurica, antifungals, forsythia, honeysuckle can remove heat and relieve convulsion^[11], as well as Chen Pi, red peony, and *Angelica sinensis* can promote Qi and blood circulation. Soapberry, smallpox pollen, chekiang fritillary bulb can disperse knots and remove pus, and baked licorice can protect the spleen and stomach^[12]. The amount of each ingredient can be adjusted according to the patient's condition to achieve maximum therapeutic effect. Ear tip bloodletting therapy falls under acupuncture therapy, where stimulation of the auricular acupoints can dredge the meridians, remove body toxins, and harmonize the yin and yang^[13]. By stimulating acupoints on the tip of the ear, heat can be removed, swelling is reduced, and the Qi and blood can be regulated to prevent pain. There are abundant nerve fibers on the surface of the auricle, including deep and superficial sensory organs, which are very sensitive to external stimuli^[9]. Ear tip bloodletting can regulate endocrine secretions, promote blood circulation, facilitate metabolism, regulate the internal organs, control inflammation, strengthen immunity, and relieve pain^[14].

In this study, 70 patients with early-stage wheals were selected as the research subjects, and the results showed that all the self-conscious symptom scores of patients in the observation group were lower than those of the control group after treatment. The diameter of the wheal mass was smaller than that of the control group, and the average tear film rupture time and the time for the first non-contact tear film rupture after treatment were longer than those of the control group. The results indicated that the combined treatment method could better improve the symptoms of the disease, where the comparison of the total effective rate of the treatment of the observation group was higher than that of the control group. The sleep quality score of the observation group was lower than that of the control group after treatment, indicating that the combined therapeutic regimen improved sleep therapy for the patients after improving symptoms such as pain and sclerosis. Conventional Western medical treatment is more limited, with a slow onset and long treatment duration, which leads to the recurrence of the disease. This method causes pain and burden to the patients and easily causes scarring, which adversely impacts normal eye function and aesthetics. TCM is more advantageous because bacterial infection is the main cause of wheals. TCM pays attention to eye hygiene, maintaining good eye habits, and also emphasizes the importance of maintaining a good diet and carrying out regular exercise.

5. Conclusion

Ear tip bloodletting therapy combined with XFH was effective in the treatment of early-stage wheals and had high efficiency.

Disclosure statement

The author declares no conflict of interest.

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