

Clinical Observation of 48 Cases of Black Eye Circle Treated with Modified Yu Rong San Gel Eye Mask

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Abstract: *Objective:* To observe the clinical effect of modified Yu Rong San gel eye mask in the treatment of dark circles. *Methods:* 96 cases of patients with dark circles were randomly divided into treatment group and control group. In the control group and the treatment group, the common eye mask and the modified Yu Rong San gel eye mask were applied to the black circle area respectively. After 15min, water was used to wash the face, the application of the mask for one time a day, four weeks, one course, and three courses were observed. *Results:* After three courses of treatment, the total effective rate of the treatment group was higher than that of the control group ($P<0.05$); the area of black eye circles in the treatment group was smaller than that before treatment ($P<0.05$); compared with the control group, the score of black eye circles was lower than that before treatment, the difference was statistically significant ($P<0.05$). *Conclusion:* Addition and reduction of Yu Rong San gel eye mask is effective in the treatment of dark circles.

Keywords: Black eye circles; Jiajian Yurong powder; Curative effect observation

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1. Introduction

Black eye circle, also known as periorbital pigmentation, refers to the circular black area of bilateral lower eyelids and infraorbital [1-2]. Most of them are distributed symmetrically in all age groups. At present, most of the drugs for the treatment of dark circles are expensive and ineffective [3-7]. Yurong powder comes from Qianjin Yaofang, which can remove blackness and brighten skin color. The team used Yu Rong San to add and subtract the Yu Rong San gel eye mask to observe its efficacy in treating dark circles. The results are as follows:

2. Data and methods

2.1. General data

96 patients with dark circles were selected from January 2019 to September 2020. The clinical data is shown in Table 1.

2.2. Inclusion criteria

The inclusion criteria were referred to the etiology, diagnosis and treatment of black eye circles [8]. Those who met the diagnostic criteria of four types of black eye circles of lower eyelid were included; Unconscious and communication disorder; The informed consent has been signed voluntarily.

Table 1. Comparison of clinical data between the two groups

Group	Sex [n (%)]		Age	Course of disease	Disease classification [n (%)]			
	Male	Female			Pigment type	Vascular type	Structural type	Mixed type
Treatment group	22 (45.83)	26 (54.17)	30.1±2.98	1.74±0.08	16 (33.33)	13 (27.08)	14 (29.17)	5 (10.41)
Control group	23 (47.91)	25 (52.08)	30.0±2.86	1.75±0.39	13 (27.08)	15 (31.25)	14 (29.17)	6 (12.50)
statistic	$\chi^2= 0.157$		$t = 0.286$	$t=0.433$	$\chi^2= 0.934$			
<i>P</i>	0.589		0.727	0.666	0.625			

2.3. Exclusion criteria

Patients who did not meet the above inclusion criteria; Lactation, pregnant women; Allergic constitution; Severe cardiovascular and cerebrovascular diseases, malignant tumors and other major diseases were found; Those who cannot cooperate; Engaged in outdoor work.

2.4. Methods

In the control group and the treatment group, after cleaning the face, the common eye mask and U-shaped Yurongsan eye mask were applied to the upper and lower orbit respectively, and removed 15 minutes later, once a day, 4 weeks for a course of treatment, and observed for 3 courses.

2.5. Efficacy criteria

The area and score of black eye circles, erythema index (EI), melanin index (MI) and skin pigmentation of the two groups were compared after treatment.

2.6. Statistical analysis

Statistical analysis was performed by SPSS 19.0. Pearson χ^2 test was used for count data and *t* test was used for measurement data. The significance level was $\alpha = 0.05$.

3. Results

3.1. Comparison of clinical efficacy between the two groups

Compared with the control group, the effective rate of the treatment group was higher ($P<0.05$). See **Table 2**.

3.2. Black eye score

There were significant differences in the area and integral of black eye circles between the two groups after treatment ($P<0.05$). See **Table 3**.

Table 2. Comparison of clinical efficacy before and after treatment (%)

Grouping	Number of cases	Cure	Excellent	Better	Invalid	Total effective rate
Treatment group	48	22 (45.83)	16 (33.33)	6 (12.50)	4 (8.33)	44 (91.66)
Control group	48	15 (31.25)	12 (25.00)	11 (31.25)	10 (14.58)	38 (79.16)

Table 3. Comparison of black eye area and black eye score between the two groups before and after treatment ($\bar{x} \pm s$)

Group		Number	Dark eye area (cm ²)	Dark Circle Score (Score)
Treatment group	Before treatment	48	4.13±1.14	2.51±0.59
	After treatment	48	1.68±0.75 [△]	1.15±0.19 [△]
Control group	Before treatment	48	4.12±1.09	2.82±0.52
	After treatment	48	2.59 ±1.52 [△]	1.79±0.38 [△]

Note: [△]compared with before treatment, $P < 0.05$

3.3. Comparison of skin pigmentation

After 3 courses of treatment, EI and MI of the two groups decreased compared with those before treatment ($P < 0.05$). See Table 4.

Table 4. Comparison of EI and MI between the two groups

Grouping	Treatment time	EI	MI
Treatment group N (48)	Before treatment	408.06±11.55	223.52±14.53
	After treatment	340.89±08.99 ^{*△}	169.84±7.17 ^{*△}
control group N (48)	Before treatment	407.99±12.55	223.66±17.99
	After treatment	379.26±15.45 [*]	179.62±6.15 [*]

3.4. Comparison of images before and after treatment

In the treatment group is shown in **Figure 1.** and **Figure 2.**; The pictures of the control group before and after treatment are shown in **Figure 3.** and **Figure 4.**

**Figure 1.** Photos before treatment group**Figure 2.** Photos after treatment



Figure 3. Photos before treatment control group

Figure 4. Photos after treatment

4. Discussion

The accelerated pace of life leads to the existence of dark circles in most people, which brings great trouble to their social activities^[9]. The current treatment methods mostly have disadvantages^[10-13]. Yu Rong San is “face black skin wrinkle Chou San Fang.” The team processed and modified Yu Rong San gel eye mask after adding or subtracting the Yu Rong San. It works for a short time in the treatment area. The curative effect is obvious and the patient’s satisfaction is high. It should be vigorously promoted.

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Disclosure statement

The author declares no conflict of interest.

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