Clinical Study

Clinical study on brain-benefiting and collateralunblocking needling technique for chronic alcoholic gastritis complicated with depression

聪脑通络针法治疗酒精相关性慢性胃炎伴抑郁症临床研究

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Abstract

Objective: To observe the clinical efficacy of brain-benefiting and collateral-unblocking needling technique for chronic alcoholic gastritis complicated with depression.

Methods: A total of 92 cases with chronic alcoholic gastritis complicated with depression were included in this trial. They were randomly allocated into an observation group (n=46) and a control group (n=46) by random number (envelope) method. Patients in the observation group received the brain-benefiting and collateral-unblocking needling technique. Scalp points included Shenting (GV 24), Xinhui (GV 22), Qianding (GV 23), Baihui (GV 20), Chengguang (BL 6), Tongtian (BL 7) and Luoque (BL 8). Body points included Neiguan (PC 6), Zusanli (ST 36), Zhongwan (CV 12), Gongsun (SP 4), Shenmen (HT 7), Daling (PC 7), Qimen (LR 14), Xinshu (BL 15) and Taichong (LR 3). The control group only received the same body acupuncture as the observation group. The treatment was conducted once a day, 30 min for each treatment, and 10 times made up a course of treatment. The efficacy was observed after 3 courses of treatment, and there was a 2-d interval between two courses.

Results: After 3 courses of treatment, the clinical symptoms and gastroscopic features were significantly improved in the observation group than that in the control group. The clinical efficacy, self-rating anxiety scale (SAS) and self-rating depression scale (SDS) were significantly better than those in the control group (all P < 0.05).

Conclusion: The brain-benefiting and collateral-unblocking needling technique can significantly improve clinical symptoms in patients with chronic alcoholic gastritis complicated with depression and substantially alleviate their gastroscopic features, anxiety and depression.

Keywords: Acupuncture Therapy; Scalp Acupuncture; Scalp Stimulation Areas; Alcoholics; Gastritis; Depression; Anxiety

【摘要】目的:观察聪脑通络针法对酒精相关性慢性胃炎伴抑郁症的临床疗效。方法:选择酒精相关性慢性胃炎 伴抑郁症患者 92 例,采用随机数字信封法分为观察组和对照组,每组 46 例。观察组予以聪脑通络针法治疗,头 穴取神庭、囟会、前顶、百会、承光、通天和络却;体穴取内关、足三里、中脘、公孙、神门、大陵、期门、心 俞和太冲。对照组仅选用与观察组相同的体穴针刺治疗。两组均每日治疗 1 次,每次留针 30 min,治疗 10 次为 1 个疗程,2 个疗程间休息 2 d,治疗 3 个疗程后观察疗效。结果:治疗 3 个疗程后,观察组临床症状及胃镜下组织 形态的改善情况均优于对照组;观察组临床疗效、焦虑自评量表(SAS)评分与抑郁自评量表(SDS)评分均优于对照 组(均 P<0.05)。结论:聪脑通络针法能明显改善酒精相关性慢性胃炎伴抑郁症患者的临床症状,对胃镜下组织形 态及焦虑、抑郁症状也有明显改善作用。

【关键词】针刺疗法;头针;头针刺激区; 嗜酒者; 胃炎; 抑郁症; 焦虑

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Chronic alcoholic gastritis complicated with depression involves abdominal pain/discomfort due to long-term alcohol abuse or drinking hard liquor, as well as depression. Over time, excessive consumption of alcohol can affect stomach functions and result in different severities of gastritis^[1]. Due to its long duration, many patients may develop depression, which may in turn aggravate the gastritis^[2]. So far, there is no specific drug for this condition in modern medicine. We've treated 46 cases with chronic alcoholic gastritis coupled with depression with acupuncture. The results are now summarized as follows.

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1 Clinical Materials

1.1 Diagnostic criteria

This was based on the Consensus on Chronic Gastritis in China (2012, Shanghai)^[3] and diagnostic criteria for chronic gastritis coupled with depression in the 10th revision of *International Statistical Classification of Diseases and Related Health Problems* (ICD-10)^[4].

1.2 Inclusion criteria

Those who met the diagnostic criteria for chronic gastritis; those who met the diagnostic criteria for chronic gastritis coupled with depression; chronic gastritis mainly induced by alcohol consumption; those who agreed to be cooperative in gastroscopy and acupuncture treatment and signed the informed consent.

1.3 Exclusion criteria

Those who were taking other Chinese or Western medicine for alcoholic gastritis; gastritis not induced by alcohol consumption; having other mental problems; having acute gastritis, peptic ulcer or gastric cancer; having complicated diseases involving the cardiovascular, cerebral, hepatic, renal or hemopoietic systems; and those who took part in other clinical trials during 30 d prior to joining this study.

1.4 Rejection criteria

These include those who developed complications during the trial; having incomplete data that affect or compromise efficacy evaluation; those with a poor compliance and were unable to complete the treatment; and those who developed intolerable adverse reactions and dropped out voluntarily.

1.5 Statistical processing

The SPSS 23.0 version software was used for statistical analysis. The normality and homogeneity of variance tests were used for all measurement data. The data in normal distribution and equal variances were expressed as mean \pm standard deviation ($\overline{x} \pm s$). The paired *t*-test was used for intra-group comparison before and after the treatment. The *t*-test was used for inter-group comparison before and after the treatment. The *t*-test was used for data with unequal variances. The Chi-square test was used for enumeration data. The rank-sum test was used for ordinal and categorical data. A *P* value of less than 0.05 indicated a statistical difference.

1.6 General data

The included 92 eligible cases were outpatients treated between January 2013 and December 2015 at Acupuncture, Gastroenterology and Psychiatry Departments, the First Hospital of Hunan University of Chinese Medicine. The research proposal was approved by the Medical Ethics Committee. The included cases were randomly allocated into an observation group (n=46) and a control group (n=46) by random number

(envelop) method. There were no between-group statistical differences in gender, age and duration (gender: $x^2 = 0.000$, P = 1.000; age: F = 0.067, P = 0.797; duration: F = 0.878, P = 0.351), indicating that the two groups were comparable (Table 1).

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Course	n	Gender (case)		Mean age	Mean duration	
Group		Male	Female	$(\overline{x} \pm s, year)$	$(\overline{x} \pm s, \text{month})$	
Observation	46	43	3	54.4±8.5	32.7±8.5	
Control	46	44	2	54.8±8.4	31.2±7.0	

2 Treatment Methods

2.1 Observation group

Scalp points: Shenting (GV 24), Xinhui (GV 22), Qianding (GV 23) and Baihui (GV 20) along the midline of the vertex; Chengguang (BL 6), Tongtian (BL 7) and Luoque (BL 8) along the lateral line of the vertex.

Body points: Neiguan (PC 6), Zusanli (ST 36), Zhongwan (CV 12), Gongsun (SP 4), Shenmen (HT 7), Daling (PC 7), Qimen (LR 14), Xinshu (BL 15), Ganshu (BL 18) and Taichong (LR 3).

Method: The scalp points were punctured using filiform needles of 0.30 mm in diameter and 40 mm in length. The first needle along the midline of the vertex was inserted subcutaneously (15°) into Shenting (GV 24), 25-30 mm towards Baihui (GV 20), followed by a relay of the 2nd, 3rd and 4th needle along the same line. As for bilateral lines of the vertex, three needles were inserted from Chengguang (BL 6) towards Luoque (BL 8), followed by rapid rotating manipulation at a frequency of 200 r/min. The needles were retained for 30 min and manipulated once every 10 min. The body points were punctured with filiform needles of 0.30 mm in diameter and 40 mm in length, followed by even and gentle lifting, thrusting and rotating manipulation. The points can be classified into two groups [group 1: Zhongwan (CV 12), Qimen (LR 14), Zusanli (ST 36) and Taichong (LR 3); group 2: Xinshu (BL 15) and Ganshu (BL 18)] and used alternately. Both scalp and body points were used for each treatment. The treatment was conducted once a day, 10 times for a course of treatment. The patients were treated for 3 courses of treatment and there was a 2-d interval between two courses.

2.2 Control group

Points: The same body points as in the observation group were used.

Method: Patients received the same method (needles, needling manipulation, needle-retaining time and courses of treatment) as those in the observation group.

Patients in both groups did not take Chinese or Western medicine.

3 Efficacy Observation

3.1 Efficacy evaluation criteria

3.1.1 Efficacy evaluation on clinical symptoms

Five symptoms including the upper abdominal pain, abdominal fullness and distension, nausea and vomiting, acid reflux and heart burn were recorded and graded before and after the treatment^[5]. 0 point: absence of symptoms; 1 point: occasional or mild symptoms that have no impact on life and work; 2 points: frequent symptoms that may affect life and work but can be alleviated by medications; 3 points: severe symptoms that greatly affect life and work and cannot be alleviated by medications.

Marked effect: Absence of clinical symptoms, scores decreased by >75%.

Improvement: Clinical symptoms were improved or significantly alleviated, scores decreased by > 50%, \leqslant 75%.

Failure: Clinical symptoms remained unchanged or aggravated, scores decreased by \leq 50%.

3.1.2 Efficacy evaluation on gastroscopic features

This was based on the *Endoscopic Classification Criteria and Treatment* (Pilot Edition, 2003, Dalian, China) by the Chinese Society of Digestive Endoscopy^[6].

Recovery: Normal gastroscopic findings and absence of clinical signs and symptoms.

Marked effect: Significant improvement in gastroscopic features and remarkable improvement in clinical signs and symptoms.

Improvement: Improved gastroscopic features, clinical signs and symptoms.

Failure: Gastroscopic features, clinical signs and symptoms remained unchanged or were aggravated.

3.1.3 Evaluation on anxiety and depression

The self-rating anxiety scale (SAS) and self-rating depression scale (SDS) were used to evaluate the anxiety and depression state^[7]. 1 point: absence or a little of the time; 2 points: some of the time; 3 points: good part of the time; 4 points: most of the time. A high total score indicated more severe anxiety and depression.

3.2 Results

3.2.1 Clinical efficacy observation

After the treatment, there was a between-group statistical difference in clinical efficacy (Z = -2.799, P = 0.005), indicating a better efficacy in the observation group than that in the control group (Table 2).

Table 2. Between-group compar	rison in clinical efficacy (case)	1
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Group	n	Marked effect	Improvement	Failure
Observation	46	21	22	3
Control	46	10	28	8

3.2.2 Observation of gastroscopic features

After the treatment, there was a between-group statistical difference in gastroscopic features (Z = -2.169, P = 0.030), indicating a better efficacy (gastroscopic features) in the observation group than that in the control group (Table 3).

 Table 3. Between-group comparison in gastroscopic features (case)

Group	п	Recovery	Marked effect	Improvement	Failure
Observation	46	17	17	9	3
Control	46	10	15	13	8

3.2.3 Changes in SAS and SDS

Before the treatment, there were no between-group statistical differences in SAS and SDS (SAS: t=0.057, P=0.813; SDS: t=0.296, P=0.588), indicating a similar severity of anxiety and depression in the two groups. After the treatment, there were intra-group statistical differences in SAS and SDS (observation group SAS: t=47.820, P=0.000; observation group SDS: t=74.084, P=0.000; control group SAS: t=10.601, P=0.002; control group SDS: t=17.407, P=0.000); and there were between-group statistical differences in SAS and SDS (SAS: t=9.72, P=0.002; SDS: t=8.788, P=0.004). These indicated that SAS and SDS were improved in both groups and the improvements were more significant in the observation group than those in the control group (Table 4).

Table 4. Between-group comparison in SAS and SDS before and after the treatment ($\overline{x} \pm s$, score)

Group	п	Item	Before treatment	After treatment
Observation	16	SAS	44.87±6.36	35.28±6.93 ¹⁾²⁾
	46	SDS	49.90±7.44	$38.77 \pm 3.78^{1)2)}$
Control	46	SAS	44.57±5.91	39.98±7.51 ¹⁾
		SDS	50.21±5.25	45.52±6.14 ¹⁾

Note: The intra-group comparison before and after the treatment, 1) P < 0.01; 2) compared with the control group after the treatment, 2) P < 0.01

3.3 Dropouts and adverse reactions

There were no dropout cases or adverse reactions in the two groups during the trial.

4 Discussion

Along with the economic development and fast pace of life, people have become more stressful and tend to alcohol to reduce stress. Long-term alcohol consumption may significantly increase the occurrence of chronic gastritis^[1]. Ethanol is the principal type of alcohol found in alcoholic beverages. It dissolves in lipid,

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irritates the lining of the stomach and results in gastric mucosa injury^[8]. Patients with long duration of chronic gastritis may develop depression and anxiety, which may in turn affect the gastrointestinal motility and gastric acid secretion. Studies have suggested that medications for chronic gastritis combined with antidepressants and anti-anxiety drugs achieved a better efficacy than medications for gastritis alone, indicating that psychological factor affects the clinical efficacy for chronic gastritis^[9]. Other studies have suggested that anxiety and depression are closely associated with chronic gastritis in patients with a neuroticism personality trait and these patients often do not respond to routine treatment^[10]. It's essential to distinguish the causal relationship between chronic gastritis and anxiety/depression for treatment protocol. As a result, we combined gastroscopic features with self-rating anxiety/depression scales to screen patients with chronic gastritis and depression, for improving the clinical efficacy^[11]. In Western medicine, chronic alcoholic gastritis coupled with depression is usually treated with medications that inhibit gastric acid, protect gastric mucosa, promote gastric motility and increase digestive enzyme as well as antidepressants and anti-anxiety drugs. However, these costly treatments take a long period of time and produce side effects^[12]. Over the recent years, acupuncture based on stagnation-relieving^[13] and stomach-harmonizing and spleen-strengthening theories^[14] has been reported to be effective for chronic alcoholic gastritis complicated with depression.

In Chinese medicine, there is no corresponding term alcoholic gastritis complicated with as chronic depression. However, in term of its clinical manifestations, this condition falls under the category of 'stomach fullness' or 'stomachache', 'emotional disturbance'. The association between stomach problems and liver/spleen was first mentioned in Ling Shu (Spiritual Pivot). Alcohol consumption may generate damp-heat to impair the descending of stomach qi and block the stomach collaterals. This, over time, may result in malnourishment of the stomach and liver gi stagnation. The heart, liver and stomach are involved in fire hyperactivity due to yin deficiency and gi stagnation. Consequently, the root cause of this condition is deficiency; however, patients often present with excess symptoms.

The treatment strategies are to harmonize the stomach, unblock collaterals, soothe liver qi, relieve stagnation and refresh the brain. As a result, scalp points that benefit the brain and unblock collaterals were selected in combination with points based on pattern identification. The Governor Vessel and the Bladder Meridian points on the scalp were selected to benefit the brain and unblock collaterals. According to modern anatomy, the midline and lateral lines of the vertex are the projection areas of the prefrontal cortex, and strong rotating stimulation acts to benefit the brain, unblock collaterals, relieve depression and refresh the mind. Neiguan (PC 6) is the Luo-connecting point of the Pericardium Meridian and acts to regulate gi and unblock collaterals. It is also a confluent point connecting with Yin Link Vessel. Gongsun (SP 4) is the Luo-connecting point of the Spleen Meridian and a confluent point connecting with the Thoroughfare Vessel. These two points act to harmonize the stomach, soothe the liver and relieve chest tightness. Zusanli (ST 36) is the lower He-Sea point of the stomach. Zhongwan (CV 12) is the Front-Mu point of the stomach and Influential point of the Fu organ. These two points act to harmonize the stomach and unblock collaterals. Shenmen (HT 7) is the Yuan-Primary point of the Heart Meridian and Daling (PC 7) is the Yuan-Primary point of the Pericardium Meridian. These two points act to tranquilize the mind. Qimen (LR 14) is the Front-Mu point of the liver and Xinshu (BL 15) is the Back-Shu point of the heart. These two points act to relieve depression and calm the mind. In summary, the whole formula acts to harmonize the stomach, unblock collaterals, soothe the liver, tranquilize the heart and mind, relieve depression and benefit the brain.

This study has suggested that compared with conventional acupuncture, brain-benefiting and collateral-unblocking needling technique can achieve a more remarkable efficacy in improving clinical symptoms and gastroscopic features and relieving anxiety and depression. Since early studies of our research group and other researchers have proven that moxibustion can repair injured gastric mucosa^[15-18], we'll conduct clinical observation on brain-benefiting and collateral-unblocking needling technique combined with moxibustion in the future.

Conflict of Interest

The authors declared that there was no potential conflict of interest in this article.

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Statement of Informed Consent

Informed consent was obtained from all individual participants included in this study.

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