



Observation on the therapeutic effect of aspirin in combined with acupuncture in the treatment of TIA

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ABSTRACT

Objective: To observe the effect of aspirin in combined with acupuncture in the treatment of transient ischemic attack (TIA). **Methods:** A total of 90 patients with TIA who were admitted in our hospital were included in the study and randomized into the observation group and the control group with 45 cases in each group. The patients in the two groups were given aspirin and routine symptomatic treatments. On this basis, the patients in the observation group were given acupuncture. Two-week treatment was regarded as one course. The fasting venous blood before treatment and one course after treatment was collected to detect the serum lipid level. TCD was used to detect the average peak flow velocity of MCA, VA, and BA. A follow-up visit was paid to TIA attack times within 3 months. **Results:** TC, TG, and LDL levels after treatment in the two groups were significantly reduced when compared with before treatment, while HDL was significantly elevated when compared with before treatment. The comparison of TC, TG, LDL, and HDL after treatment between the two groups was not statistically significant. The comparison of the average peak flow velocity of MCA, VA, and BA before treatment between the two groups was not statistically significant. The average peak flow velocity of MCA and BA after treatment were significantly slowing down when compared with before treatment, while the average peak flow velocity of VA was not significantly different from that before treatment. The average peak flow velocity of MCA and BA after treatment in the treatment group was significantly lower than that in the control group. The average attack time of TIA every week after treatment in the observation group was significantly lower than that in the control group. **Conclusions:** Aspirin in combined with acupuncture in the treatment of TIA can effectively improve the cerebral hemodynamic indicators, and reduce TIA attack time; therefore, it deserves to be widely recommended in the clinic.

1. Introduction

Transient ischemic attack (TIA) is a common neurological disease in the clinic, and is mainly caused by transient blood supply insufficiency of carotid artery or vertebral-basal artery, with main clinical manifestation of transient local cerebral function loss, which can last for several seconds or 2 h, and can be relieved by itself, with repeated attack and no sequela[1-3]. TIA is highly occurred in individuals aged from 34 to 65 years old, more in males than

female, with no foreboding symptoms, which can severely affect the patients' living qualities[4]. Some researches demonstrate that[5] the frequent TIA is a special alarming for cerebral infarction; therefore, it should be paid sufficient attention in the clinic. Early confirmation and treatment should be made for patients with frequent TIA in order to reduce the occurrence rate of cerebral infarction, and enhance the living quality. The study is aimed to observe the effect of aspirin in combined with acupuncture in the treatment of TIA.

2. Materials and methods

2.1. Clinical materials

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A total of 90 patients with TIA who were admitted in our hospital from January, 2015 to January, 2016 were included in the study, among which 66 were male, and 24 were female; aged from 43 to 75 years old, with an average age of (55.7±8.9) years old. Inclusion criteria: (1) those who were in accordance with the diagnostic criteria of TIA revised by the National Fourth Cerebrovascular Disease Academy Conference (1995)[6]; (2) those whose lesions were detected by cranial CT and or MRI; (3) those whose ABCD2 score was (3.10±2.03). Those who had intracranial space-occupying lesions, arthritis, cerebral dysfunction, lactation, severe heart, kidney, liver, and hematopoietic system diseases were excluded from the study.

2.2. Methods

The patients were randomized into the observation group and the control group with 45 cases in each group. The comparison of baseline data between the two groups was not statistically significant, but it was comparable ($P>0.05$). The patients in the two groups were given TIA routine treatments, including CDPC, nimodipine, low molecular dextran, or Danshen, and other drugs which can expand the blood vessels, nourish the nerves, and promote blood circulation to dredge collaterals, and bayaspirin enteric-coated tablets (produced by Bayer Healthcare Co., Ltd, Approval No. J20130078, 100 mg/time), 100 mg/time, qd. Two-week treatment was regarded as one course. On this basis, the patients in the observation group were given acupuncture which was performed in the traditional Chinese medicine department of our hospital. Acupoint selection: Jiaji acupoint and Fengchi acupoint of the bilateral cervical regions were selected. The acupuncture point with a length of 1 inch was inserted into Jiaji acupoint in a depth of 0.3-0.5 inch, and twirling and lifting-inserting catharsis was performed. The acupuncture point with a length of 1 inch was inserted into Taichong acupoint in a depth of about 0.5-0.8 inch, and twirling and lifting-inserting catharsis was performed. The acupuncture point with a length of 1.5 inch was inserted into Fengchi acupoint in a depth of about 0.8-1.2 inch, and lifting-inserting catharsis was performed. After getting the Qi of acupuncture, the pulse therapeutic device was added, with a frequency of 2 000 Hz, needle retaining for 30 min, qd.

2.3. Observation indicators

The fasting venous blood before treatment and one course after treatment was collected to detect the serum TC, TG, LDL, and HDL levels. TCD was used to detect the average peak flow velocity of MCA, VA, and BA. A follow-up visit was paid to TIA attack times within 3 months.

2.4. Statistical analysis

SPSS 11.5 software was used for the statistical analysis. The measurement data were expressed as mean ± SD, and *t* test was used. The enumeration data were expressed as percentage, and chi-square test was used. $P<0.05$ was regarded as statistically significant.

3. Results

3.1. Comparison of the serum lipid level before and after treatment

The comparison of TC, TG, LDL, and HDL before treatment between the two groups was not statistically significant ($P>0.05$). TC, TG, and LDL levels after treatment in the two groups were significantly reduced when compared with before treatment ($P<0.05$), while HDL was significantly elevated when compared with before treatment ($P<0.05$). The comparison of TC, TG, LDL, and HDL after treatment between the two groups was not statistically significant ($P>0.05$) (Table 1).

3.2. Comparison of TCD examination result before and after treatment

The comparison of the average peak flow velocity of MCA, VA, and BA before treatment between the two groups was not statistically significant ($P>0.05$). The average peak flow velocity of MCA and BA after treatment were significantly slowing down when compared with before treatment ($P<0.05$), while the average peak flow velocity of VA was not significantly different from that before treatment ($P>0.05$). The average peak flow velocity of MCA and BA

Table 1

Comparison of the serum lipid level before and after treatment (mmol/L).

Groups	<i>n</i>		TC	TG	LDL	HDL
Treatment	45	Before treatment	6.50±1.24	2.93±0.64	4.51±0.94	1.05±0.39
		After treatment	5.34±1.09*	2.31±0.58*	3.56±0.99*	1.33±0.45*
Control	45	Before treatment	6.64±1.31	3.02±0.81	4.63±1.03	1.11±0.32
		After treatment	5.39±1.12*	2.30±0.61*	3.70±0.84*	1.35±0.41*

* $P<0.05$, when compared with before treatment.

Table 2.

Comparison of TCD examination result before and after treatment (cm/s).

Groups	n		MCA	VA	BA
Treatment	45	Before treatment	143.89±35.22	32.07±4.95	100.73±19.79
		After treatment	64.32±10.75 [#]	32.74±4.70	39.09±12.49 [#]
Control	45	Before treatment	149.72±26.79	33.41±5.58	98.14±24.71
		After treatment	75.62±9.16 [*]	35.66±4.17	56.78±17.56 [*]

^{*} $P<0.05$, when compared with before treatment; [#] $P<0.05$, when compared with the control group.

after treatment in the treatment group was significantly lower than that in the control group ($P<0.05$) (Table 2).

3.3. Comparison of average TIA attack time every week within 3 months

The comparison of average attack time of TIA every week before treatment between the two groups was not statistically significant ($P>0.05$), while the average attack time of TIA every week after treatment was significantly reduced ($P<0.05$). The average attack time of TIA every week after treatment in the observation group was significantly lower than that in the control group ($P<0.05$) (Table 3).

Table 3.

Comparison of average TIA attack time every week within 3 months.

Groups	n	Before treatment	After treatment
Treatment	45	4.69±3.12	1.29±1.50 [#]
Control	45	4.99±3.17	2.62±2.53 [*]

^{*} $P<0.05$, when compared with before treatment; [#] $P<0.05$, when compared with the control group.

4. Discussion

Some scholars argue that [8-10] TIA is a super predicting signal for cerebral infarction, and frequent attack can predict the significantly increased occurrence rate of cerebral infarction; therefore, timely and effectively prevention is of great significance in improving the prognosis. Some researches demonstrate that [11-14] hypoperfusion and vasospasm are associated with the attack of TIA; therefore, effective correction of the abnormal hemodynamics to relieve the vasospasm can significantly improve TIA symptoms, and reduce TIA attack times.

Lipid-lowering, anti-coagulation, and arterial plaque stabilizing are mainly involved in the treatment of TIA by western medicine, and have achieved a considerable progress [14]. TIA belongs to the scope of stroke foreboding by the traditional Chinese medicine, and it is argued that Yin and Yang imbalance of visceral Qi and blood caused by wind, fire, sputum, weakness, and stagnation can induce TIA [15,16]. It is found by the modern medicine study that [17] acupuncture in the treatment of TIA can significantly

increase the cerebral blood flow, improve the microcirculation state and hemorheology indicators, and enhance the immune system function. The results in the study showed that TC, TG, and LDL levels after treatment in the two groups were significantly reduced when compared with before treatment ($P<0.05$), while HDL was significantly elevated when compared with before treatment ($P<0.05$); the comparison of TC, TG, LDL, and HDL after treatment between the two groups was not statistically significant ($P>0.05$), indicating that acupuncture in the treatment of TIA has no significant effect on the lipid metabolism. The comparison of the average peak flow velocity of MCA, VA, and BA before treatment between the two groups was not statistically significant ($P>0.05$); the average peak flow velocity of MCA and BA after treatment were significantly slowing down when compared with before treatment ($P<0.05$), suggesting that the two treatment protocols can improve the cerebral hemodynamic indicators in patients with TIA. However, the average peak flow velocity of MCA and BA after treatment in the treatment group was significantly lower than that in the control group ($P<0.05$), showing that aspirin in combined with acupuncture in the treatment of TIA has more advantage in improving the cerebral hemodynamic indicators. Moreover, the results in the study showed that the average attack time of TIA every week after treatment in the observation group was significantly lower than that in the control group ($P<0.05$), indicating that aspirin in combined with acupuncture can better effectively control TIA attack times, with a significant efficacy.

In conclusion, aspirin in combined with acupuncture in the treatment of TIA can effectively improve the cerebral hemodynamic indicators, and reduce TIA attack time; therefore, it deserves to be widely recommended in the clinic.

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