

Effect of scalp electro-acupuncture on post-stroke depression[☆]Huang Yong¹, Chen Jing¹, Zou Jun²

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Abstract

BACKGROUND: It is thought in traditional Chinese medicine that "the head is the residence of intelligence", "the head is the leader of body, and the focus of the spirit". Therefore, scalp electro-acupuncture can induce resuscitation, relieve mental confusion, dredge the meridian and eliminate the depression in treatment of post-stroke depression.

OBJECTIVE: To observe the curative effect of head acupuncture on post-stroke depression.

DESIGN: Randomized controlled and single blind evaluation

SETTING: Department of Acupuncture and Moxibustion, Nanfang Hospital of Southern Medical University; College of Acupuncture and Massage, Guangzhou University of Traditional Chinese Medicine.

PARTICIPANTS: Totally 90 patients with post-stroke depression were from Affiliated Nanfang Hospital and Zhujiang Hospital of Southern Medical University, First Affiliated Hospital of Guangzhou University of Traditional Chinese Medicine were recruited. The Score of all the patients in Hamilton Rating Scale for Depression (HRSD) were > 20. Ninety patients were randomly divided as scalp acupuncture group (n=46) and routine acupuncture group (n=44).

METHODS: The patients in the routine acupuncture group were treated mainly at points of three-yang meridians of foot and hand at the hemiplegia side. The points include *jiayu* (LI-15), *biniao* (LI-14), *quchi* (LI-11), *shousanli* (LI-10), *waiguan* (SJ-5), *hegu* (LI-4), *biguan* (St-31), *liangqiu* (St-34), *zusanli* (St-36), *yanglingquan* (GB-34), *kunlun* (UB-60), *jiexi* (St-41). The above points were divided into 2 groups, 1 group each day, alternately. Even reinforcing-reducing method was used, with 30-minute needle retention, 6 successive days treatment with 1 day rest, for 6 weeks totally. The patients in the scalp acupuncture were treated with, besides the above method, scalp acupuncture. Mid-parietal line, mid-frontal line, laterofrontal line I (both sides) were chosen. After arrival of *qi*, G6805 type electro-acupuncture apparatus (interrupted wave, 50 Hz, 4 V) was connected, with 30-minute needle retention, 6 successive days treatment with 1 day rest, 6 for 6 weeks totally. HRSD was used to evaluate the status of depression before and after treatment. Stroke score was used to evaluate the curative effect of stroke.

MAIN OUTCOME MEASURES: HRSD scores and curative effect of apoplexy before and after treatment of the patients in two groups.

RESULTS: According to the intention treatment, all 90 patients entered the result analysis. ① HRSD score after treatment was lower than that before treatment in the scalp acupuncture group, and that after treatment group in the routine acupuncture group (8.55 ± 1.73 , 30.61 ± 4.02 , 15.04 ± 2.33 , $P < 0.01$). ② There was no significant difference of the total effective rate in the two groups, but some tendency indicated the effective rate in the scalp acupuncture group was better than that in the routine acupuncture group (100%, 98%, $\chi^2 = 1.9167$, $P > 0.05$).

CONCLUSION: Scalp electro-acupuncture has obvious curative effect on post-stroke depression. The amelioration of melancholia has a certain promoting effect on rehabilitation of apoplexy.

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INTRODUCTION

As mental disorder and limb motion disorder secondary to stroke devel-

op, the sudden change in social and family role after stroke often result in the depression, showing decrease of mental activity, dejection, inhibition of thinking activity, mental agony, pessimism, which affect its functional recovery in a large scale. Aiming to this condition, the scalp electro-acupuncture is used to treat post-stroke depression, and the comparison of curative effect was performed between scalps acupuncture group and routine acupuncture group.

SUBJECTS AND METHODS**Subjects**

Totally 90 patients with post-stroke depression, hospitalized in Nanfang Hospital and Zhujiang Hospital and the Clinic of the First Affiliated Hospital of Guangzhou University of Traditional Chinese Medicine from May 2001 to August 2002, were recruited. Inclusion criteria: ① Diagnosed by CT at skull. ② Met the DSM-III-R diagnosis criteria of American Psychiatry Association. ③ Met the diagnosis criteria of unipolar depression and neurotic depression in the affective mental disorder. The Score of all the patients in Hamilton Rating Scale for Depression (HRSD) > 20 scores. Exclusion criteria: ① With multi-organs failures or hemophilia and so on which are not indicative to acupuncture. ② With acute hemorrhage of the brain which are not indicative to scalp acupuncture. ③ With severe psychological disorder who can not cooperate. Among the 90 patients, there were 50 males and 40 females, aged 55 to 78.5 years, average age of (61.96±8.30) years; with the course of disease of 28 days to 38 months, average (53.07±12.55) days; 31 cases were of cerebral hemorrhage, 59 of cerebral infarction; 58 of left-side cerebral injury, 32 of right-side cerebral injury; the stroke score was 8 to 16 before treatment with the average of (12.52±2.33) scores. The above patients were randomly divided into 2 groups, that is scalp acupuncture group (n=46) and routine acupuncture group (n=44).

Methods

Therapeutic method: The principle that "Yangming meridian is selected for treatment of flaccidity syndrome" was followed for patients in the routine acupuncture group. The patients in the routine acupuncture group were treated mainly at points of three-yang meridians of foot and hand at the hemiplegia side. The points include *jiayu* (LI-15), *biniao* (LI-14), *quchi* (LI-11), *shousanli* (LI-10), *waiguan* (SJ-5), *hegu* (LI-4), *biguan* (St-31), *liangqiu* (St-34), *zusanli* (St-36), *yanglingquan* (GB-34), *kunlun* (UB-60), *jiexi* (St-42). The above points were divided into 2 groups, 1 group each day, alternately. Even reinforcing-reducing method was used, with 30-minute needle retention, 6 successive days treatment with 1 day rest, 6 for 6 weeks totally. The patients in the scalp acupuncture were treated with, besides the above method, scalp acupuncture. Mid-parietal line, midfrontal line, laterofrontal line I (both sides) were chosen. After arrival of *qi*, G6805 type electro-acupuncture apparatus (interrupted wave, 50 Hz, 4 V) was connected, with 30-minute needle retention, 6 successive days treatment with 1 day rest, 6 for 6 weeks totally.

Observation methods: HRSD was used to evaluate the status of depression before and 6 weeks after treatment by special persons. Totally 24 items, < 8 scores meant no depression, > 20 scores meant mild or moderate depression, > 35 scores meant severe depression.

Criteria of curative effect: Curative effect of post-stroke depression was evaluated with reduction rate of total score of HDS. Reduc-

tion rate=(total score before treatment -total score after treatment) /total score before treatment×100%

Reduction rate ≥ 50% indicated an obvious effect, ≥ 25% indicated effective, and < 25% indicated no effect

Curative effect evaluation criteria made by Chinese Academy of traditional Chinese Medicine was used as the criteria for treatment of cerebral stroke. Accumulated points > 24 was basic cured, accumulated points after treatment > 10 was markedly effective and > 4 was effective, < 4 was ineffective, and aggravated condition, reduced accumulated point or death was deteriorated.

Statistical analysis: Data were performed analysis of variance and χ^2 test with SPSS 10.0 software by the specialist.

RESULTS

Descriptive statistics

Quantitative analysis of the participants: According to the intention treatment, all the participants completed the treatment with no loss in the midway. Ninety patients entered the stage of result analysis. Comparison of the baseline materials of the patients in the two groups (Table 1)

Table 1 Comparison of the baseline materials of the patients in the two groups ($\bar{x}\pm s$)

| Group | n | Age (yr) | Course of disease (d) | Disease scoring |
|---------------------|----|------------|-----------------------|-----------------|
| Scalp acupuncture | 46 | 63.12±6.37 | 52.69±12.33 | 12.90±1.85 |
| Routine acupuncture | 44 | 60.64±9.72 | 54.22±10.95 | 12.23±2.01 |

There was no significant difference of age, gender and course of disease of the patients in the two groups ($P > 0.05$).

Statistical analysis

Comparison of HRSD and stroke scoring before and after treatment between two groups (Table 2)

Table 2 Comparison of HRSD and stroke scoring before and after treatment between two groups ($\bar{x}\pm s$)

| Group | HRSD score | | Stroke score | |
|---------------------|------------------|-----------------|------------------|-----------------|
| | Before treatment | After treatment | Before treatment | After treatment |
| Scalp acupuncture | 30.61±4.02 | 8.55±1.73* | 12.44±3.91 | 24.68±3.01* |
| Routine acupuncture | 29.00±5.89 | 15.04±2.33* | 11.90±4.28 | 22.12±3.85* |

HRSD: Hamilton Rating Scale for Depression; * $P < 0.01$, t_s before treatment, * $P < 0.05$, t_s after treatment in the head acupuncture group

Comparison of curative effect of depression symptom before and after treatment

Depression symptom in the two groups all improved before and after treatment. In the scalp acupuncture group, 16 of 46 patients had an obvious effect, 29 effect, 1 no effect, with the total curative rate of 98% (45/46); in the routine acupuncture group, 4 of the 44 patients had an obvious effect, 23 effect and 17 no effect with the total curative effect of 61% (27/44). There was significant difference of the total curative rate of depression symptom in the two groups ($\chi^2=22.0810, P < 0.01$).

Comparison of effect of stroke in the two groups

Among 46 cases of stroke in the scalp acupuncture group, 13 cases were basically cured, 30 markedly effective, 3 effective, with the total curative effect of 100% (46/46); among 44 cases of stroke in the control group, 10 cases were basically cured, 28 markedly effective, 5 effective, 1 ineffective, with the total curative rate of 98% (43/44). There was no significant difference of the total curative rate between the two groups ($\chi^2=1.9167, P > 0.05$), which indicates that amelioration of depression can improve cerebral stroke.

Adverse events and side effects

No adverse event and side effect was found in the study, with no loss due to it.

DISCUSSION

Electro-acupuncture on mid-parietal line, mid-frontal line, laterofrontal line I (both sides) can induce resuscitation, relieve mental confusion, dredge the meridian and eliminate the depression in treatment of post-stroke depression. The curative effect was proved in this experiment. The score in HRSD after treatment was obviously decreased.

Post-stroke depression was secondary depression. With the amelioration of cerebral stroke, the depression status was reduced gradually. It was found in this observation that the depression status of the patients in the routine acupuncture group only receiving the routine acupuncture treatment basing on the principle that "Yangming meridian is selected for treatment of flaccidity syndrome" was also improved obviously, and HRSD score was decreased remarkably, but there is significant difference of the amelioration degree when compared with that in the scalp acupuncture group.

Statistical results did not reveal that difference of stroke rehabilitation existed between two groups, which might be due to deficient sample observed in this trial. However, it can be seen from data distribution that amelioration of depression has a certain promoting effect on the rehabilitation of cerebral stroke. Depression degree was reduced with the amelioration of stroke, while improving the depression status actively and effectively can promote the recovery from cerebral stroke.

REFERENCE

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头电针对脑卒中后抑郁障碍的影响*

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黄泳☆, 女, 1967年生, 广西省桂林市人, 汉族, 1995年成都中医药大学毕业, 博士, 副教授, 主要从事针灸疗效及机理的研究。

摘要

背景: 中医认为“头者, 精明之府”, “头者, 人之元首, 人神之注”, 故应用头电针对治疗脑卒中后抑郁, 可达到醒脑开窍、荡涤蒙蔽、疏通经络、开解抑郁的作用。

目的: 观察头电针对脑卒中后抑郁的治疗作用。

设计: 随机对照, 单盲评估。

单位: 南方医科大学南方医院针灸科, 广州中医药大学针灸推拿学院。

对象: 以南方医科大学南方医院、珠江医院和广州中医药大学第一附属医院门诊就诊的脑卒中后抑郁患者 90 例为观察对象, 所有患者汉密顿抑郁量表评分 > 20 分。90 例患者随机分为头针组 46 例和常规针刺组 44 例。

方法: 常规针刺组患者取偏瘫侧的手足三阳经穴位为主进行治疗, 穴位包括肩髃、臂臑、曲池、手三里、外关、合谷、脾关、梁丘、足三里、阳陵泉、昆仑、解溪, 上述穴位分成 2 组, 每日 1 组, 交替使用, 平补平泻, 留针 30 min。连续治疗 6 d 后, 休息 1 d, 共治 6 周。头针组患者除按上述方法治疗外, 还加用头针。取顶中线、额中线、额旁 1 线(双), 得气后连接 G6805 型电针仪(断续波, 50 Hz, 4 V), 留针 30 min。连续治疗 6d 后, 休息 1 d, 共治 6 周。治疗前后应用汉密顿抑郁量表评估抑郁状态, 中风病情评分评估脑卒中疗效。

主要结局观察: 两组患者治疗前后汉密顿抑郁量表评分和脑卒中疗效。结果: 按意向处理分析, 90 例均进入结果分析。①汉密顿抑郁量表评分: 头针组治疗后低于治疗前和常规针刺组治疗后 (8.55±1.73, 30.61±4.02, 15.04±2.33, $P < 0.01$)。②脑卒中疗效: 两组总有效率无差异, 但有趋势表明头针组好于常规针刺组 (100%, 98%, $\chi^2=1.9167, P > 0.05$)。

结论: 头电针对脑卒中后抑郁有明显的治疗作用, 抑郁症的改善对脑卒中的康复有一定促进作用。

主题词: 脑血管意外/康复; 抑郁障碍/针灸疗法; 头针疗法

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