

# Clinical Research Summary on the Treatment of Sequelae of Stroke with Scalp Acupuncture in Different Schools

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**Abstract:** *Objective: To summarize the sequelae of cerebral apoplexy and clinical research progress of different schools of scalp acupuncture treatment, Objective To provide objective basis for acupuncturist to choose the best scalp acupuncture and acupoint selection when treating stroke sequelae. Methods: Related literatures were searched in CNKI, WF, VIP, Pubmed and other databases, and read books about scalp needles from different schools. Results: Scalp acupuncture therapy has been reported in the treatment of hemiplegia, speech disorders (aphasia, dysphonia), swallowing disorders, cognitive disorders, emotional disorders, balance and coordination dysfunction, hiccup and other sequelae after stroke, and the total effective rate is more than 90%. Conclusion: Various scalp acupuncture styles have definite effect on sequelae patients with stroke.*

**Keywords:** Scalp Acupuncture, Stroke, Research Progress, Schools

## 1. Introduction

Stroke is a cerebral dysfunction syndrome caused by acute cerebral blood circulation disorder caused by stenosis, occlusion or rupture of cerebral blood vessels caused by various reasons[1]. Studies have shown that in my country, 11 million people are stroke patients[2]. Stroke is the leading cause of death among adults in my country, and it has the characteristics of high morbidity, high disability rate and high recurrence rate[3-4]. Mortality from stroke has declined over the past few decades, while hemiplegia, speech disorders (aphasia, dysarthria), swallowing disorders, cognitive disorders, mood disorders, sleep disorders, constipation Sequelae such as impairment, pain, fatigue, balance and coordination dysfunction are still inevitable[5]. Acupuncture and moxibustion of traditional Chinese medicine played an important role at this time. Acupuncture and moxibustion in the treatment of stroke sequelae have the advantages of simple operation, safety and reliability, significant therapeutic effect, and small side effects[6-8]. Scalp acupuncture directly acts on the head, and it has a very good effect on the sequelae of stroke[9-11]. There are many schools of scalp acupuncture, and different schools of scalp acupuncture play different roles in multiple sequelae of stroke. Therefore, the author consulted relevant literature in databases such as China National Knowledge Infrastructure (CNKI), Wanfang Database (WF), Chinese Science and Technology Periodicals Full-text Database (VIP), and the National Library of America (Pubmed), and read books related to scalp acupuncture of different schools. The purpose of this study is to summarize the stroke sequelae and clinical research progress that different schools of scalp acupuncture tend to treat, and to provide an objective basis for acupuncturists to choose the best scalp acupuncture therapy and acupoint selection in the treatment of stroke sequelae.

## 2. Research status of different schools of scalp acupuncture in the treatment of stroke sequelae

### 2.1 Fang's Scalp Acupuncture

In 1958, Fang Yunpeng[12] began to study specific acupoints on the head, and Fang Lao said that there may be an advanced regulation system in the scalp that can regulate the functions of human

organs. After continuous summarization, the Fang's scalp acupuncture system based on the theory of TCM meridians, cerebral cortex function orientation, and holographic images was formed. 11 cortical function stimulation points for thinking, memory, speaking, writing, balance, signal, hearing, smell, vision, balance, and respiration. Fang Yunpeng[13] and others used Fang's scalp acupuncture to treat 707 patients with post-stroke hemiplegia, and the effect was excellent. Acupoint selection: the affected side of Fuxiang and inverted elephant (motor disorder); the affected side of Fuzang and inverted viscera (sensory disorder); thinking, head, memory, signal (confusion); head, writing, hearing, respiration (unstable blood pressure); speech, memory, signaling (language impairment). He said that scalp acupuncture should be used as soon as possible in the treatment of stroke patients, and pointed out that the "pyramidal shock period" of stroke patients deserves further discussion. Huang Na[14] and others used Fang's scalp acupuncture combined with tongue acupuncture and body acupuncture to treat 24 patients with post-stroke aphasia. The acupoints were taken from the head area, speech, signal, and balance. After treatment, the patients' speech function recovered well. Li Yanjiao[15] and others found that the therapeutic effect of Fang's scalp acupuncture combined with ice stimulation in the treatment of post-stroke dysphagia patients was significantly higher than that of ice stimulation alone. Fang's scalp acupuncture takes the head of the elephant, the top of the internal organs, the upper part of the inverted image, the bottom of the bottom of the internal focus, and the speech. Zhang Xiaoying[16] and others randomly divided patients with cognitive dysfunction after stroke into 2 groups. Fang's scalp acupuncture points were used for the treatment of elephant head, thinking, writing, balance and balance. They found that Fang's scalp acupuncture combined with idebenone The improvement of cognitive function of patients after treatment was more effective than that of idebenone alone.

### **2.2 Jiao's Scalp Acupuncture**

In 1971, Jiao Shunfa[17] announced Jiao's scalp acupuncture to the world. Jiao Laoyan[18] scalp acupuncture is a new therapy for treating brain-derived diseases. Based on the functional localization of the cerebral cortex, Jiao's scalp acupuncture can be divided into motor area, sensory area, foot movement area, chorea tremor control area, vasomotor area, auditory dizziness area, speech area 2, application area, visual area, speech area 3 There are 16 stimulation areas in total: area, balance area, stomach area, thoracic area, reproductive area, hepatobiliary area, and intestinal area. Fu Tao[19], Xiao Lei[20], etc. adopted Jiao's scalp acupuncture combined with rehabilitation technology, Fu Tao selected points: motor area, sensory area, foot motor sensory area, speech area 2, balance area, Xiao Lei took the motor area, It is effective in the treatment of ischemic stroke patients. Luo Jinfa[21] and others used Jiao's scalp acupuncture combined with speech training, and acupoints were selected from the first area of speech, the second area of speech, and the third area of speech to treat patients with post-stroke aphasia. They believed that Jiao's scalp acupuncture combined with speech training could treat post-stroke aphasia. Symptomatic patients are generally better than nervous system electrical stimulator combined with speech training. Lu Guozhen[22] and others randomly divided 80 patients with post-stroke depression into 2 groups. It was found that the emotional state of the patients after Jiao's scalp acupuncture combined with traditional Chinese medicine was more significantly improved than that of fluoxetine hydrochloride. Liu Lanlan[23] and others used Jiao's scalp acupuncture combined with Bo's abdominal acupuncture to treat 58 elderly patients with stroke. Jiao's scalp acupuncture was used for acupuncture in the motor area. After treatment, the patient's balance function was significantly improved. Ding Mingqiao[24] used Jiao's scalp acupuncture combined with body acupuncture to treat 78 patients with post-stroke hiccups. Acupoints were selected: Baihui, stomach area and thoracic area. It was found that acupuncture in the stomach area and thoracic area can inhibit the vagus nerve and stop the hiccups patient from hiccups.

### **2.3 Yu's Scalp Acupuncture**

In 1972, Yu Zhishun[25] began to try scalp acupuncture to treat cerebral apoplexy. Yu Laoyan[26] acupoints on the head and acupoints on the whole body can achieve the purpose of treating diseases through overall regulation. Based on the functional positioning of the cerebral cortex and the meridian theory, Yu Lao proposed the acupuncture field hypothesis and divided the treatment area into seven areas: the parietal area, the preparietal area, the frontal area, the occipital area, the suboccipital area, the temporal area, and the nape area. Yu Zhishun et al[27] observed that acupuncture on the side of the curly side of the healthy side of Baihui, the curly side of the paralyzed side, the overhanging skull on the healthy side of the front top, and the motor area were treated for post-stroke hemiplegia patients. There was no difference in hemiplegia patients, and the curative effects were all good. Zhu Pengyu [28]and others found that Yu's scalp acupuncture combined with neck acupuncture had excellent

curative effect in the treatment of post-stroke dysphagia patients. The acupoints were taken from the frontal area, the top area, and the top front area. Sun Yuanzheng[29] and others randomly divided 30 patients with post-stroke depression into 2 groups, and the acupoints were Shenting penetrating Chihanhui, Qucha and Benshen upward penetrating (frontal area). It was found that the mood improvement of patients after Yu's scalp acupuncture was better than that of fluoxetine hydrochloride.

#### **2.4 Tang's Scalp Acupuncture**

In 1975, Tang Songyan[30] summarized and organized "Scalp Acupuncture Therapy", which was further summarized as "Tang's Scalp Acupuncture". Tang Laoyan is based on the theory of meridians, yin and yang theory, and micro-meridian system, and according to the functional positioning of the cerebral cortex, a total of 53 mapping areas and 9 mapping points are distributed in the front and rear halves of the scalp. Li Wen[31] and others conducted a randomized controlled study on 72 patients with early post-stroke hemiplegia. Tang's scalp acupuncture used acupoints in the heart area, Sanjiao area, lumbosacral area, language and intelligence area, wind line, static line, blood line, upper limbs In the yin-yang area and the yin-yang area of the lower extremity, it is believed that Tang's scalp acupuncture combined with exercise therapy can improve the patient's movement speed and make the movements of the elbow and shoulder joints more coordinated.

#### **2.5 Lin's Scalp Acupuncture**

In 1979, Lin Xuejian[32] developed Lin's scalp acupuncture. According to cerebral cortex function localization, brain function and blood flow distribution localization, and neuroelectrophysiological localization, the scalp was divided into three commonly used stimulation areas: the brain function localization area (motor area, sensory area, visual area), quiet area (premotor area, postsensory area, emotional intelligence area, additional motor area, thoracic area, abdominal area, pelvic area, auditory comprehension area, vocal memory area, language formation area, visual contact area, worry area), new areas of the cerebellum (cerebellar vermis, cerebellar hemisphere). Lin's scalp acupuncture for the treatment of sequelae of cerebral apoplexy[33]: acupoints for motor dysfunction in motor area (contralateral), cerebellar vermis area, and cerebellar hemisphere area (ipsilateral). For sensory disturbance, acupoints were selected for sensory area (contralateral), posterior sensory area, and cerebellar vermis area. Speech disorders (aphasia, dysarthria), ataxia, acupoints in the cerebellar vermis and cerebellar hemisphere (ipsilateral).

#### **2.6 Yu Changde's Cranial Needle**

In 1980, Yu Changde[34] researched the therapy of acupuncture at the suture area of the skull for the treatment of stroke sequelae. Yu Laoyan's post-stroke sequelae were complicated, and body acupuncture alone could not achieve a better curative effect. It should be combined with head and body acupuncture. At the same time, the painless effect of acupuncture was better than that of acupuncture. Based on the anatomical structure of the skull, Yu Changde cranial needle[35] is divided into: temporal suture, sagittal suture, herringbone suture, and coronal suture. Wang Guoshu[36] and others conducted a randomized controlled study on patients with post-stroke hemiplegia. The treatment used Yu Changde cranial acupuncture combined with body acupuncture and Yu Changde cranial acupuncture combined with rehabilitation training. Acupoint selection: temporal suture, sagittal suture, herringbone suture, Coronal suture, the curative effect is excellent.

#### **2.7 Zhu's Scalp Acupuncture**

In the 1980s, Zhu Mingqing[37] wrote "Zhu's Scalp Acupuncture" according to the "International Scheme for Standardization of Names of Scalp Acupuncture Points". Based on the theory of Tibetan images and the theory of meridians, Zhu's scalp acupuncture was divided into two categories according to the functional orientation of the cerebral cortex. 8 treatment belts including top-occipital belt, front-side belt, back-side belt, frontal-parietal belt and parafrontal belt, as well as top-perineal foot-ankle area, upper extremity area, lower extremity area, upper focal area, middle focal area, and lower focal area 19 treatment areas including the head and face area [38]. Lei Xulu[39] et al. used Zhu's scalp acupuncture with long needles to treat acute ischemic stroke patients with hemiplegia, head and face area, upper focal area, middle focal area, and lower focal area, which greatly reduces the disability rate of patients.

### **2.8 Liu's Scalp Acupuncture**

In 1997, Liu Bingquan founded Liu Bagua scalp acupuncture. Liu Laoyan said scalp acupuncture should be the first choice for hemiplegia after stroke. Liu's Bagua scalp acupuncture is divided into Baihui Small Bagua, Baihui Medium Bagua, and Baihui Big Bagua. Liu's scalp acupuncture points are selected for the treatment of stroke sequelae: Baihui Small Bagua for lower extremity motor and sensory dysfunction, Baihui Zhong Bagua for upper and lower extremity motor and sensory dysfunction and writing disorder, memory impairment, motor and naming aphasia, The upper and lower limb motor sensory disorders were taken from Baihui Bagua [40].

### **2.9 Japanese Yamamoto-Style New Scalp Acupuncture**

Dr. Toshisheng Yamamoto from Japan[41] has accumulated experience in the application of Chinese scalp acupuncture and created a new Yamamoto-style scalp acupuncture, which includes point A, point B, point C, point D, and point E. Wang Ping[42] observed the clinical curative effect of 61 patients with central hemiplegia after cerebral infarction, and the total effective rate was 95.08%. He believed that the new Japanese Yamamoto-style scalp acupuncture has few acupoints, is easy to operate, and is safe and reliable.

## **3. Conclusion**

Each school of scalp acupuncture has its own theoretical basis and division of acupoints. Therefore, in the treatment of stroke sequelae, each school of scalp acupuncture has its own acupoint selection scheme, but the total effective rate is above 90%. At the same time, the author found that when treating patients with post-stroke sequelae, most physicians choose combination therapy, including scalp acupuncture combined with rehabilitation training, scalp acupuncture combined with rehabilitation techniques, scalp acupuncture combined with body acupuncture, scalp acupuncture combined with tongue acupuncture, scalp acupuncture combined with traditional Chinese medicine, scalp acupuncture combined with psychotherapy and other therapies. This reminds clinicians that combined therapy should be actively used in the treatment of stroke sequelae to achieve the best therapeutic effect.

In the report, most doctors mentioned that early intervention treatment should be performed for stroke patients, and the earlier the treatment, the better the curative effect. With the improvement of scalp acupuncture technology, clinical research has become more and more diversified. From the initial clinical efficacy observation test to the current randomized controlled trial, it shows that in terms of clinical scientific research, the quality of research has been continuously improved, and the credibility of research results has been continuously improved.

There are also many problems in the research of various schools of scalp acupuncture on the treatment of stroke sequelae. When summarizing the selection of acupoints, the author found that the selection of acupoints for different sequelae of each scalp acupuncture school is very different, and the acupoint selection scheme of the same school of scalp acupuncture is also different. Therefore, in the future, more doctors are needed to discover the most effective treatment for stroke sequelae. The best acupoint selection plan to optimize and simplify scalp acupuncture.

Although the credibility of current clinical research reports is constantly improving, randomized controlled trials also have their own shortcomings. The design of the control group in randomized controlled trials is sometimes unethical, and every patient should be used. Some of the best treatment options, for which real-world research is even more prominent. However, the authors found no reports of real-world research in the study. And most of the studies select a small number of samples within a single hospital as the research object, which reduces its credibility. The future requires our joint efforts to optimize clinical research. There are few reports on the mechanism of scalp acupuncture in treating stroke sequelae. If the mechanism of a therapy is clear, it will broaden its treatment scope and improve its therapeutic effect. It is expected that more scholars will study the mechanism of scalp acupuncture in the future.

Finally, the author also found that there are few comparative studies on scalp acupuncture in the reports. Although various scalp acupuncture schools are distributed all over the country, if each scalp acupuncture school learns from each other, learns from each other, and gives full play to their respective advantages, will it be beneficial to the development of medicine? Let us wait and see.

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