

The Principles & Advanced Clinical Observation of Stroke Induced Hemiplegia with Acupuncture Treatment

Yemeng Chen, M.D. & Yong-An Fang, M.D.

Acupuncture Department

Huashan Hospital affiliated to Shanghai Medical University
Shanghai, P. R. China

Although stroke induced hemiplegia is one of common neurological diseases, it is also an effective indication of acupuncture. In our department we worked out a series of new principles of acupuncture treatment in order to increase the therapeutic effect. In a retrospective analysis of 108 cases, inducing the data of hospitalization and the results of CT scans, we sought to find evidence of the efficacy of acupuncture treatment.

The Principles of Acupuncture Treatment

1. Combined Acupoints Selection Based on the Differential Diagnosis and Local Symptoms

In earlier reports on stroke induced hemiplegia and acupuncture treatment, we found that more attention was paid to the rehabilitation of paralytic limbs and less to the treatment organic conditions. We suggest that organic differential diagnosis and systemic treatment are beneficial to the regulation of general functions, and also to the rehabilitation of paralytic limbs. In order to increase the curative effect and conclude the result easily, we classified the general differential diagnosis into three types:

- 1) The symptoms of accumulation of phlegm-dampness in the body:** hemiplegia, salivation, a depressive state, stiffness of tongue, dysphasia, dizziness or headache, pale tongue or white and greasy coating, slippery pulse, etc. The acupoints of Pishu (BL 20), Fenglong (ST 40) and Gongsun (SP 4) can be used.
- 2) The symptoms of deficiency of liver and kidney Yin:** hemiplegia, muscle spasm and stiffness, flushed cheeks, tinnitus, constipation, reddish tongue or yellow coating, wiry, thready and rapid pulse, etc. The acupoints of Shenshu (BL 23), Taixi (KI 3), and Fuliu (KI 7) can be used.
- 3) The symptoms of deficiency of vital energy and blood stasis:** hemiplegia, weakness of limbs, sallow complexion, puffiness of limbs, purplish or enlarged tongue with tooth marks on its margin, small pulse, etc. The acupoints of Zusanli (ST 36), Fengchi (GB 20), and Hegu (LI 4) can be used.

Formerly, acupuncture as used for hemiplegia patients was limited by the theory that, "Acupoints were selected in Yangming Meridian only with the flaccidity-syndrome" (Emperor's Canon of Medicine). According to the writers' clinical experiences, the acupoints belonging to the three Yang meridians and the Governor Vessel are all effective in treating stroke induced hemiplegia, and the acupoints selection should pay

attention to the combination of local symptoms of hemiplegia and general differential diagnosis. Neither should be overemphasized at the expense of the other.

If the patients exhibit symptoms of headache, dizziness, imbecility, uncontrollable crying or laughter, we select the acupoints of Baihui (GV 20), Sishencong (Ex.). Fengchi (GB 20), Taiyang (Ex.) and Naohu (GV 17) since these acupoints are all located in the head region. It may activate blood circulation and help dissipate blood stasis after acupuncture.

Secondly, when selecting the acupoints, they should be combined with advanced anatomical knowledge. The acupoints in the upper extremities such as Jianyu (LI 15), Quchi (LI 11), Shousanli (LI 10) and Sidu (TE 9) all belong to Yang meridians and after acupuncture may activate the function of upper extremities and be beneficial to the recovery of movement of the upper abduction since the muscles where acupoints located are extensors. The acupoints in the lower extremities such as Huantiao (GB 30), Weizhong (BL 40), Piguan (ST 31) and Yanglingquan (GB 34) all belong to Yang meridians and after acupuncture may activate the function of lower extremities and be beneficial to the recovery of movements of flexion and extension because the muscles where the acupoints located are flexors and extensors. If the lower extremities can flex or extend, their movement function, and gait are expected to improve.

2. Combined Therapies of Body Acupuncture & Scalp Acupuncture

In scalp acupuncture therapy, the stimulation zones were selected according to the surface's projection of the cerebral cortex in accordance with the theories of combined traditional and Western medicine. In clinical practice we discovered that using scalp acupuncture simultaneously with the above-mentioned plans may increase the curative effect and result in an earlier rehabilitation of paralytic limbs.

For paralysis of the upper extremity, use the middle 2/5 Motor Zone on the opposite side. For paralysis of the lower extremity, use the upper 1/5 Motor Zone on the opposite side. For paresthesia of the upper extremity, use the middle 2/5 Sensory Zone on the Opposite side. For paresthesia of the lower extremity, use the upper 1/5 Sensory Zone on the opposite side. For motor aphasia, use the lower 2/5 Motor Zone both sides.

3. Combined Methods of Electro-Acupuncture & Needle Manipulation

The electro-acupuncture should be used on acupoints located in the paralytic limbs, and also in the zones of scalp acupuncture. The extent of stimulation should not be very large as the output power is limited by the degree which the patients can endure, and the frequency is about 100 – 120 times every minutes.

Because of tonus of the extension in the lower extremities and limitation of flexion in the knee joint and movement in the hip joint, patients with upper neuron paralytic exhibit a spastic gait, stiffness of limbs, and dragging of one leg. If we want to change this situation, we should improve the tonus of the extensors. So when we needle the acupoints, we use the electro-acupuncture stimulator, which is markedly superior to use of manual

acupuncture alone, for the rehabilitation of paralytic limb function. During treatment one can see the paralytic limb swaying rhythmically and the back of the hand and dorsum of the foot showing rhythmic dorsiflexion.

In some acupoints the needle manipulation is required. The method of needle reduction, by rotating the needle backward with the thumb, should be used in conjunction with the acupoints Quze (PC 3) and Daling (PC 7) to reduce muscular tension in the upper extremity and Taibai (SP 3) in treating stiffness of the toe. All produced an instant effect. If the patients show symptoms of an accumulation of phlegm-dampness in the body and have thick coating on the tongue, we use the method of reduction by rotating the needle in conjunction with acupuncture at Fenglong (ST 40) and Gongsun (SP 4). About ten minutes later the thick coating should be much less. Other methods have no such a kind of effect.

In considering electro-acupuncture and needle manipulation, different symptoms properly indicate the use of one or the other for stroke induced hemiplegia. We should have a definite objective in mind in order to achieve the desired results.

Advanced Clinical Observation

1. Clinical Date

Of the 108 cases of stroke within three months, 69 were male and 39 were female. The ages ranged from 7 – 84 years old (the average being 58.6) and the percentage of the patients more than 50 years old was high (81.48%). There were 79 cases of cerebral infarction and 20 cases of cerebral hemorrhage. The degree of paralysis was judged by the average degree of muscle strength in six joints (shoulder, elbow, wrist, hip, knee and ankle). There were three grades: light paralysis – muscle strength more than grade 4 (only 7 cases); severe – muscle strength less than grade 2 (69 cases); medium – muscle strength between the two (32 cases).

2. The Relationships between CT Scan & Clinical Phenomena

All 108 cases were examined by brain CT scan which showed the site of the lesion and the extent of injury. Many of the foci were in the basal ganglia (34.5%) and the internal capsule (23.6%), with the remaining ones located in the cerebral hemisphere, temporo-frontal-parietal areas, the occiput, the thalamus, temporo-parietal areas, temporo-occipital areas, the external capsule, the parietal lobe, and the brain stem.

The focus of damage identified by CT scan showed a correlation to the degree of paralysis. In the patients with shallow foci, there were 43% severe paralysis cases whose foci were all in the cortex of the parietal lobe. In the patients with deep foci there were 66.7% with severe paralysis and 70% of multiple foci were also severe. Thus it can be seen that patients with damage to the parietal lobe, or to deep and multiple areas suffered from severe paralysis.

With the exception of two cases in which the area of damage was shallow, 29 cases showed hemorrhagic foci very deep in the internal capsule, the basal ganglia, the thalamus, and the area near the external capsule. The area covered by the foci was very large. The situation in these paralytic patients was very severe, and the severity was about 64.2%, with no light cases.

3. The Result of Treatment

In our research we put special emphasis on observing the effect of acupuncture treatment on hemiplegia in one-month duration, acupuncture given one time every day for six days and one day rest. The therapeutic effect was classified into three grades according to the increasing range of muscle strength after treatment:

Excellent: average muscle strength increased more than two degrees (23 cases)

Effective: average muscle strength increased between 1 – 2 degrees (67 cases)

Ineffective: muscle strength increase less than one degree (18 cases).

The total effective rate was 83.3%.

We selected 52 cases at random to serve as the control group. These patients received general medication only without acupuncture treatment. They were similar in age and conditions (41 cases). The effective rate of the acupuncture group was 83.3% and of the control group was 63.4%. Statistics show a P value of less than 0.05.

4. Analysis of the Therapeutic Effect

Stage: The results of stroke patient who started acupuncture within the first three weeks were markedly superior to that of treatment after the first three weeks. The effective rate of the two groups was 90.9% versus 71.4%. ($P < 0.01$)

Quality: Effective rate of acupuncture for ischemic and hemorrhagic stroke induced hemiplegia showed no difference on the whole. ($P > 0.05$)

Location: The foci lesions in these cases were concentrated in the basal ganglia and the internal capsule. The effective rate of the patients with the focus in the basal ganglia was 78.9%. It was 66% in those with lesion in the internal capsule. Among the cases with basal ganglia focus, ten cases were excellent result, in which the extent of the lesion was very small or lacunar foci. The remaining foci of patients exhibiting effective response to treatment were located in the thalamus, the parietal lobe, the occipital lobe and the temporo-frontal-parietal lobes.

5. Conclusion

All 108 stroke cases were strictly selected, diagnosed clearly by a CT scan for disease quality add areas and range of lesions, and were observed closely under hospitalization. It is thus confirmed that the new principles of acupuncture treatment are effective in the treatment of stroke induced hemiplegia. The data also shows that the condition of the foci

in the CT scans is in keeping with the degree of paralysis on the whole; if the patient has large range or bilateral, deep, multiple foci, the response to acupuncture treatment is not very good, and single, shallow, smaller range focus have a better prognosis.

(This article was originally published in *Dynamic Chiropractic*, Vol.7, No. 15, Aug. 1, 1989, 22- 23, 26; reprinted in the Journal of American College of Traditional Chinese Medicine, Vol.7, No.3,1989)