

Clinical research of the five needles combined with rehabilitation training treatment dysphagia after stroke

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Abstract: To compare therapeutic effects of Five Needles of the Nape and routine acupuncture on treatment of pseudo bulbar paralysis dysphagia after Brain stroke. 60 patients were randomly divided into five key groups and routine acupuncture, and 30 cases in each group. The group of Five Needles of the Nape set points to take dumb door, Tianzhu, cure choke point with acupuncture treatment which cooperate with swallowing training . The group of routine acupuncture set points to take Lian Quan, Tong Li, Zhao Hai points with acupuncture treatment. Both groups were acupunctured once a day, 6 times a week and 2 weeks is a period of treatment, evaluating curative effect after two courses of treatment. The total effective rate of Five Needles of the Nape group was 93.3%, when the total effective rate of routine acupuncture group was 80.0%.as a consequence Five Needles of the Nape group is superior to routine acupuncture group ($P<0.05$). Five Needles of the Nape have better clinical efficacy than routine acupuncture on treatment of pseudo bulbar paralysis dysphagia after Brain stroke.

Keywords: Acupuncture treatment; Brain stroke sequelae; Pseudobulbar palsy; Dysphagia; Five Needles of the Nape.

INTRODUCTION

Pseudobulbar paralysis dysphagia after Brain stroke belongs to the traditional Chinese medicine in "strong tongue but poor speech, aphasia and paralysis," "pharyngitis" and other areas, the disease caused by yin-yang disharmony, genuine yin deficiency, Kidney Yang deficiency, stasis-phlegm type, Qi function block impassability leading to Qing qiao shi xuan(Have a headache), Throat open and close loss function after Brain stroke.

Modern medicine considered pseudobulbar palsy is mainly caused by impaired bilateral corticobulbar tract, which make the food or liquid into the throat mouth give rise to fierce bucking. Domestic and foreign literature (Da *et al.*, 2000; Jiang *et al.*, 1991; Jiang *et al.*, 1991) reported the incidence of dysphagia after stroke can be as high as 51%~73% and can cause aspiration pneumonia, suffocation, malnutrition, dehydration, mental disorder and other complications, seriously impacting on stroke patients in rehabilitation, prolonged hospitalization and increased mortality. To this issue, acupuncture treatment show a certain advantage in this respect when it is lack of effective drug treatment currently, In June 2014 -June 2015, the author used different methods of acupuncture treatment to treat dysphagia on the basis of conventional treatment for stroke.

Clinical data

General data

60 cases were from acupuncture rehabilitation and neurology patients in traditional Chinese medicine hospital of Henan province, who was diagnosed as

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cerebral infarction or cerebral hemorrhage by CT or MRI. Randomly divided into two groups according to the order of admission using the random number table method, 30 cases in each group. Compare with ordinary materials of two groups of patients such as gender, age, course of the disease and so on, and there were no statistically significant differences ($P>0.05$). Comparable shown as in table 1 and table 2 and carry out a clinical comparison to further improve and optimize the acupuncture treatment to improve and optimize the acupuncture treatment further. Now report as follows:

Diagnostic criteria

Diagnostic criteria of traditional Chinese medicine :Since the stroke dysphagian there is no direct the corresponding disease in traditional Chinese medicine, and has dysphagia, drinking cough and other symptoms at the same time referring to " Stroke diagnosis and the scoring of efficacy (trial)" in 1996 (Jiang *et al.*, 1997) of State Administration of Traditional acute encephalopathy Collaborative Group. Western medicine diagnostic criteria: Referring to "all types of cerebrovascular disease diagnosed main points" (Hu, 1991) in 1995 revised by Chinese Neuroscience, Chinese Academy of Neurology Surgery, who have the symptoms of dysphagia is diagnosed as pseudobulbar palsy according to the history, symptoms, signs and imaging examination at the same time cause the stroke dysphagian.

Inclusion criteria

① Conform to the diagnostic standard; ② Stroke patients is in stable condition, and can cooperate to check and treatment; ③ A course of 30 days or more; ④ Weight in 40~80kg, age in 45~75 years old; ⑤ Volunteered to participate in this experiment, and sign the informed

consent; ⑥ Have a correct understanding on acupuncture research significance, and have good compliance with the observation and evaluation of the researchers.

Exclusion criteria

①Dysphagia caused non-stroke pseudobulbar palsy; ② Mental disorders; ③ Who is disgusted with Acupuncture treatment has poor compliance; ④ Aphasia, visual disorders; ⑤ Poor nutritional status, with severe heart, liver, kidney, hematopoietic system, endocrine system diseases.

Therapeutic method

Basic therapy

All patients with basic diseases and complications were equivalent in TCM treatment, mainly including support therapy, reduce intracranial pressure, reduce brain edema, application of brain tissue protective agent and other drug treatment. Therapy use conventional drugs for the treatment of cerebral infarction or cerebral hemorrhage.

Grouping therapy

Five Needles of the Nape group

Acupoints: Dumb door, Tianzhu, governance choke points (under the Tianzhu 1 inch)

Operation

Patients take semi-recumbent position, select Hua card 0.30 mm × 40 mm needle, vertically into the needle, and the needles depth are 15mm or so. Twist 1min at a frequency of 120 times per minute after get gas with locally tingling sense of expansion for the degree. Acupuncture with swallowing function training process, that is to say the patient is asked to swallow. that line the needle during the patient is asked to do swallow in the process of acupuncture. Empty swallowing can be carried out at the beginning and gradual transition to drinking water and swallowing pap, retaining needle 30 min. Manipulat needle once every 15min and manipulat needle 3 times in total.

Routine acupuncture group

Acupoints: Lianquan, Tongli, Zhaohai

Operation

Patients take supine position, select Hua card 0.30mm × 40mm needle, vertically into the needle and the needle depth are 15mm or so. Twist 1 min at a frequency of 120 times per minute after get gas with locally tingling sense of expansion for the degree. Acupuncture with swallowing function training process, that is to say the patient is asked to swallow. That line the needle during the patient is asked to do swallow in the process of acupuncture. Empty swallowing can be carried out at the beginning, and gradual transition to drinking water and swallowing pap, retaining needle 30min. Manipulat needle once every 15 min and manipulat needle 3 times in total. Both groups' received treatment 1 time a day, 6

times a week, two weeks for a course and we evaluate the curative effect after every two cycles.

Efficacy evaluation

Observation index

Kubota drinking water test (Han *et al.*, 2001): Drink 30 mL warm water, and the swallowing function will be divided into 5 levels, level 1: swallow 30mL of warm water smoothly within 5 s; level 2: swallow more than 2 times without choking within 5~10s; level 3: swallow 1 times within 5~10s but have a choking cough; level 4: swallow more than 2 times within 5~10s but have a choking cough; level 5: Swallow 30mL of warm water difficultly within 10s with frequently choking.

Effective evaluation criteria

Formulate according to kubota's drinking water test (Han *et al.*, 2001). Recovery: kubota drinking water test reach level 1,2, and patients can eat normally; Marked effectivity: kubota drinking water test reach level 3, and patients can basically eat without nasogastric but have a choking cough; Effectivity: kubota drinking water test reach level 4, and patients can eat part of the food, and need replenish intravenous nutrition. Ineffectivity: kubota drinking water test reach level 5, and patients can not eat through the mouth absolutely.

STATISTICAL ANALYSIS

All data used by SPSS12.0 software, measurement data were presented as mean ± standard deviation ($\bar{x} \pm s$) using t-test; Non-parametric test of paired measurement data's use rank sum test; measurement data use χ^2 test.

The treatment results

The efficacy of the two groups were compared in table 3.

DISCUSSION

The etiology and pathogenesis of Pseudo bulbar palsy after stroke is phlegm and blood stasis inerties, the disturbance of marrow and soul, wind, fire, phlegm and blood closed resistance pharyngeal clearance, Qi function block impassability, this disease is in the brain fundamentally, but in the tongue throat represently. As the conditioning marrow through the meridians switch opening and closing of the law to remedy. Five Needles of the Nape is dumb door, Tianzhu, cure choke points in this study. Dumb door belongs to governor vessel, located in the neck's midline line up 5 points of the hairline depression), which is rendezvous point of governor vessel and Yang-dimensional pulse. Zhu yang meridians governed by the governor vesse is into the top of the brain. The brain is the marrow, also is the main primordial spirit. The blood meridian of the body penetrating brain can dredge Du channel, through to reach the brain, and fill complement marrow with essence, which can improve brain ischemia, hypoxia, and help restore brain cells from the point of view of modern

Table 1: The comparison of general data between two groups of pseudo bulbar paralysis dysphagia patients (case)

Group	NNT	Gender		Age				Course(day)				Entity		Diseased region		Onset frequency	
		Male	Female	MIN	MAX	AVG	(x±s)	MIN	MAX	AVG	(x±s)	Cerebral Infarction	Cerebral Hemorrhage	Cortex and subcortical bag	Basal ganglia		
Five Needles of the Nape group	30	19	11	46	74	62.63	±9.37	30	360	62.70	±72.58	21	9	11	19	5	25
Routine acupuncture group	30	13	17	45	75	63.16	±8.69	35	330	62.03	±71.79	24	6	14	16	7	23

Note: The amount of cerebral hemorrhage Hemorrhage foci is calculated according to Pulicino formula $[(L \times W) \div 2]$ calculation, the selected patients were moderate amount (10 ~ 20 m L) Hemorrhage foci.

physiology. Tianzhu is positioned at the neck. Adjacent to open 1.3 inch straight up the middle of the junction point of Neck skin and hair 0.5-inch (dumb door). That is trapezius neck trapezius depression, belong to Foot-Taiyang bladder meridian. Bladder Meridian enter into brain network, tendons knot in the tongue, the acupuncture can Liyan Tongqiao. The hole under the superficial layer has the third cervical nerve posterior branch and Sub-Branch occipital arteries and veins, underlying structure has greater occipital nerve and Main-Branch occipital arteries and veins. These neural tissue is the basic anatomy is to regulate normal swallowing. Cure choke point (Runions *et al.*, 2004) is empirical point in clinical practice commonly used in the treatment of dysphagia hole, Which can adjust the systaltic of stylopharyngeus and constrictor of pharynx, so as to improve swallowing function. Other studies(State Administration of Traditional acute encephalopathy Collaborative Group, 1996; Tease *et al.*, 2002; Gao, 2001; Weiner, 2008) have shown that acupuncture on neck acupoints can significantly improve the head and neck blood circulation, hemorrheology, rheoencephalogram and blood flow condition of basicranial artery. so as to increase CBF, improve blood oxygen supply of impaired brain tissue, promote the establishment of collateral circulation in focal region and the recovery of the central nervous system function, also can reconstruct swallowing reflex arc, restore the adjustment of cerebral cortex to corticobulbar tract, improve the swallowing function and promote recovery. On the technique of acupuncture, according to "Focal arrival of acu-esthesia", "Gas to and effective" and "Deep acupuncture in bad illness" emphasized by doctors of all dynasties, the depth of the selecting points is up to about 15 mm generally; Find out positioning accuracy properly when needling to make the patient produces air sensible. In the process of acupuncture, Must cooperate with swallowing function training, that is, asking the patient to do swallow in the process of acupuncture. Empty swallowing can be carried out at the beginning, and gradual transition to drinking water and swallowing pap. Acupuncture with swallowing function training is the key to obtain curative effect.

The acupoint selection of Routine acupuncture group is Lianquan, Tongli and Zhaohai. Lianquan in pharyngeal is the will of Yin d vein, ren meridian. Ren meridian is the sea of Yin meridians, Taking the Lianquan can adjust the Yin meridiansqi and customs clearance, Tongli and Zhaohai belong to Hand shaoyin heart sutra and Feet shaoyin kidney meridian respectively, Acupuncture which can reconcile qi and blood, imbalance between heart-yang and kidneyyin and improve swallowing function. The results show that Five Needles of the Nape group is superior to routine acupuncture group, which may be related to the characteristics of the disease. Pseudo bulbar paralysis dysphagia after Brain stroke belongs to the

Table 2: The comparison of swallowing function before treatment between two groups of pseudo bulbar paralysis dysphagia patients (case)

Group	NNT	Level 1	Level 2	Level 3	Level 4	Level 5
Five Needles of the Nape group	30	0	1	4	12	13
Routine acupuncture group	30	0	0	3	13	14

Table 3: The comparison of clinical efficacy between two groups of pseudobulbar paralysis dysphagia patients (case)

Group	NNT	Recovery	Marked effectivity	Effectivity	Ineffectivity	The total effective rate (%)
Five Needles of the Nape group	30	7	13	8	2	93.3 ¹⁾
Routine acupuncture group	30	5	8	11	6	80.0

meridian disease in TCM. The curative effect of is superior to selecting distant points in the treatment of channels and collaterals illness, and selecting nearby points can more promote the establishment of swallowing reflex arc effectively.

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