

Diagnostic and therapeutic system of apoplexy with acupuncture therapy as its focus

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Apoplexy is one of four main diseases that endanger human health. Its morbidity lies in the first place in China and its mortality is very high. Accompanied with many sequelae, it has brought a heavy burden to both the society and families. In recent years, many medical institutes and hospitals all over the country have made systematic researches on its diagnosis, treatment and mechanism in various aspects and levels, and the diagnostic and therapeutic efficacy of stroke has been raised rapidly. The researches on its pathogenesis and therapeutic mechanism have already reached molecular and gene levels.

Our hospital is a national model hospital of traditional Chinese medicine (TCM) with acupuncture therapy as its distinct advantage. It is a national center for both clinical research and professional treatment in the field of acupuncture and moxibustion. There are 350 beds in the center and a large number of advanced instruments such as CT, MRI and PCR. Since I brought forward in 1972 the theory, treatment principle and acupuncture method of "Xing Nao Kai Qiao" (XNKQ, activating brain and opening orifices), the technique has been widely applied to more than two million patients with apoplexy, and extensive researches have been carried out on the treatment of apoplexy, the mechanism of acupuncture, and its diagnosis. A new therapeutic and diagnostic system of apoplexy with the acupuncture therapy as its focus has been formed. In 1995 the research project titled "Clinical and Experimental Research on Apoplexy Treated with XNKQ" won the Award for Science and Technology Progress of China, which is the highest prize for clinical research

achievements of TCM ever given since the foundation of new China. In addition, we won the first and the second national prizes in the acupuncture teaching and promoting wider application of scientific accomplishments in acupuncture science.

1 XNKQ acupuncture therapy

XNKQ acupuncture therapy was formulated on the basis of our new knowledge on pathogenesis of stroke, which is mainly due to obstruction of brain orifices and hiding of vitality resulting from upward invasion of blood stasis, liver wind and phlegm. The acu points on *Yin* meridians and *Du* meridian are selected, and standard quantitative manipulations are applied, which are quite different from traditional acu point selection and acupuncture manipulations in treatment of apoplexy.

1.1 Point prescription Main points: Neiguan (PC 6, the Pericardium Meridian of Hand - Jueyin), Renzhong (DU 26, the *Du* meridian), Sanyinjiao (SP 6, the Spleen Meridian of Foot - Taiyin).

Supplementary points: Jiquan (HT 1, the Heart Meridian of Hand - Shaoyin), Weizhong (BL 40, the Bladder Meridian of Foot - Taiyang), Chize (LU 5, the Lung Meridian of Hand - Taiyin).

Point Modification: For difficulty in swallowing, Fengchi (GB 20), Yifeng (SJ 17) and Wangu (GB 12) are added. For failing to extend fingers with stiffness, Hegu (LI 4) is added. For slurred speech, Shanglianquan (EX - HN) is added, and Jinjin (EX - HN12) and Yuye (EX - HN13) are used with blood - letting. For talipes varus, penetrating method from Qiuxu (GB 40) to Zhaohai (KI 6) is used.

1.2 Manipulation First, puncture bilateral Neiguan (PC 6) perpendicularly for 0.5 - 1 *cun*, using combinative reducing method of lifting-thrusting and twirling-rotat-

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ing the needle for 1 minute. Secondly, puncture Renzhong (DU 26) obliquely upwards to the nasal septum for 0.3 - 0.5 *cun* by heavy bird-pecking technique until tears wet patient's eyes or flow down. Thirdly, puncture Sanyinjiao (SP 6) obliquely for 1 - 1.5 *cun* at 45° angle to the skin surface along the posterior border of the medial tibia, by reinforcing method of lifting and thrusting the needle to make the affected low limb have tic for three times.

Select the Jiquan (HT 1) point at 2 *cun* below the original location along the heart meridian to keep away from the armpit hair, puncture perpendicularly for 1 - 1.5 *cun* by reducing method of lifting and thrusting the needle to make the affected upper limb have tic for three times. Perpendicularly puncture Chize (LU 5) for 1 *cun* in depth while the forearm bends to form an angle of 120 degrees by reducing manipulation of lifting and thrusting the needle until the affected arm and fingers have tic for three times. Select Weizhong (BL 40) point in the supine position and the lower limb lifted, puncture perpendicularly for 0.5 - 1 *cun*, by reducing method of lifting and thrusting to make the lower limb have tic for 3 times.

Puncture Fengchi (GB 20), Wangu (GB 12) and Yifeng (SJ 17) in the direction of the laryngeal protuberance for 2 - 2.5 *cun*, by reinforcing manipulation of twirling and rotating the needle in high frequency and small amplitude for 1 minute to each acupoint; puncture Hegu (LI 4) 1.0 - 1.5 *cun* in depth with the needle tip toward Sanjian (LI 3), by reducing method of lifting and thrusting to make the patient's second finger or five fingers extended freely. Prick Jinjin (EX - HN12) and Yuye

(EX - HN13) with the three-edged needle to cause bleeding for 1 - 2 ml. Puncture Shanglianquan (EX - HN) for 1.5 - 2.0 *cun*, with the needle tip towards the root of the tongue and by reducing method of lifting and thrusting the needle.

1.3 Course of treatment Give acupuncture treatment twice a day, ten days as a course of treatment; commonly give the patients three to five courses of treatment.

2 Diagnostic and therapeutic principles of apoplexy

2.1 Diagnostic principle Double diagnoses should be made by TCM and Western medicine physicians. Besides the symptoms and signs of apoplexy, image evidence such as CT and MRI must be possessed.

2.2 Therapeutic principle XNKQ acupuncture therapy is the main treatment. In addition, we should use Western medications for reducing intracranial pressure, anti-infection, and lowering blood pressure, and some supporting treatment according to patients' conditions. For cerebral hemorrhage with operative indications, the operation should be performed in combination with acupuncture. For various complications of stroke, some other points should be added.

3 Curative effect of XNKQ and comparison with other therapies

3.1 Curative effect of XNKQ therapy in treatment of apoplexy In recent years we adopted strict and unified diagnostic standard and internationally recognized Edinburgh - Scandinavia criterion of curative effect, and treated 9 005 cases of apoplexy. See Tables 1 - 3.

Table 1 Analysis of curative effect of "XNKQ" therapy (%)

Total No. cases	Recovery	Marked improvement	improvement	No improvement	Death	Total effective rate
9005	5 337(59.27)	2 085(23.15)	1 453(16.14)	40(0.44)	90(1.0)	8 875(98.56)

Table 2 Relation between disease categories and curative effect (n, %)

Category	n	Recovery	Marked improvement	improvement	No improvement	Death	Total effective rate
Cerebral hemorrhage	3 097	1 775(57.31)	811(26.19)	464(14.98)	11(0.36)	36(1.16)	3 050(98.48)
Cerebral infarction	5 928	3 582(60.42)	1 274(21.49)	989(16.68)	29(0.49)	54(0.91)	5 845(98.60)

Table 3 Therapeutic analysis of apoplexy with complication of pseudobulbar paralysis (n,%)

n	Recovery	Marked improvement	Partial improvement	No improvement	Death	Total effective
521	337(64.68)	101(19.39)	75(14.40)	6(1.15)	2(0.38)	513(98.46)

Table 4 Comparison of curative effect between herbal and western medications (%)

Province and city	Therapeutic principle	Herbal medication		Western medication		P
		No. of cases	Recovery and marked improvement(%)	No. of cases	Recovery and marked improvement(%)	
Chengdu	Supplementing <i>qi</i> and activating blood flow	115	74.11	66	59.10	< 0.01
Chengdu	Activating blood flow to remove blood stasis	46	70.43	28	60.00	< 0.05
Shanghai	Inducing resuscitation and regulating spirit	60	60.00	20	20.00	< 0.05
Guangdong	Activating blood flow to dissipate blood stasis	31	62.29	32	34.28	< 0.05
Shangdong	Eliminating phlegm to open orifices	120	65.00	100	51.00	< 0.05
Jiangsu	Activating blood flow to dissipate blood stasis	100	65.00	100	51.00	< 0.05
Dalian	Invigorating <i>qi</i> and nourishing blood	280	68.00	100	54.00	< 0.05
Hubei	Invigorating <i>qi</i> and nourishing blood	256	75.78	129	44.19	< 0.01
Total		1008	68.72	514	47.19	< 0.05

Table 5 Comparison of XNKQ method with other therapies

Therapy	n	Clinical cure and improvement
XNKQ acupuncture	9 005	84.42 ^②
Other acupuncture therapies	567	76.11 ^{①②}
Herbal medication	1 008	68.72 ^{②③}
Invigorating <i>qi</i> and nourishing blood with herbs(Hubei Province)	514	47.19 ^③
Western medication		

Note: ① Compared with XNKQ acupuncture therapy, P < 0.01; ② P < 0.05;

③ Compared With western medication, P < 0.01

The results of Tables 1, 2 and 3 confirmed that XNKQ acupuncture had similar curative effect in treatment of cerebral hemorrhage, cerebral infarction and pseudobulbar paralysis. There was no significant difference in curative effect between cerebral hemorrhage and cerebral infarction. The total effective rates of curative effect were all over 98%.

It was proved statistically that XNKQ therapy had its unique characteristics in treatment of apoplexy, compared with other acupuncture therapies of TCM. Its clear therapeutic principles of regulating spirit or vitality, activating brain and opening orifices, and its quantitative and standard manipulations greatly increased the cure rate and decreased disablement rate and death rate. Just because the XNKQ therapy stresses the procedure to guide *qi*, according to the theory of "unclear spirit making twelve organs affected", occurrence of hundreds of diseases due to spirit failing vitality we mainly applied XNKQ therapy to the treatment of many complications related to apoplexy and common difficult diseases, and achieved good curative effect.

3.2 Comparison of XNKQ method with other therapies

Our previous clinical researches proved that the curative effect of XNKQ acupuncture therapy in treatment of apoplexy was much better than that of the traditional acupuncture method. In this report we have comprehensively analyzed clinical researches on treatment of apoplexy by acupuncture, herbs and Western medication, and made comparison in curative reformed in the literature effect between each other. See Tables 4 - 5.

The Tables 4 and 5 show that in treatment of stroke, herbal medication was more effective than Western medication, and acupuncture therapies were more effective than herbal medications including invigorating *qi* and nourishing blood with herbs. And XNKQ therapy was much more effective than other therapies. It was also proved by clinical researches that the earlier XNKQ acupuncture therapy was used, the better curative effect could be achieved.

4 Experimental researches on XNKQ acupuncture therapy

XNKQ acupuncture therapy has got good curative effect in the clinical practice and we have already made systematic researches on its clinical effect in hemodynamics, biochemistry, blood rheology, immunology and neuroelec-

trophysiology in previous studies. In order to probe into its therapeutic mechanism, in recent years we have carried out a series of experimental researches on many aspects such as circulation improvement, ultrastructural changes in brain cells, reperfusion injury caused by free radicals, overload calcium ion in cells, changes of neurotransmitters in brain, improvement of apoptosis, transcription activity of DNA and RNA, etc.

4.1 Influence of XNKQ acupuncture on cerebral ischemia and reperfusion injury

The results proved that:

(1) XNKQ acupuncture could increase the activity of SOD, and decrease the content of LPO.

(2) XNKQ acupuncture could reduce the overload of intracellular calcium ion in the brain.

4.2 Effect of XNKQ acupuncture on morphological changes in brain of rats with local cerebral infarction

The results proved that: (1) Ischemia improvement: There were many compensatory filling vessels in the brain tissue. The ischemic lesion of brain tissue was markedly improved. (2) Improvement of subcellular structure: The brain cells of the control group developed the swelling of mitochondria and endoplasmic reticula, and increase of heterochromatins in the cerebrocellular nuclei, which were greatly improved after the acupuncture. (3) Increase of RNA content: Compared with the control group, the quantity of RNA in cerebrocellular nuclei increased significantly in the acupuncture group.

4.3 Influence of XNKQ Acupuncture on the function, morphology and energy metabolism of cerebral microvessels of the rats with cerebral infarction

The results proved that: (1) Cerebral blood flow was increased and microvascular autorhythmic movement was improved with the acupuncture. (2) The morphological changes of microvessels in the non-acupuncture group were manifested as stiffness, bending or segmental spasm, which returned to basically normal after the acupuncture. (3) The cytochrome oxidase was decreased greatly in non-acupuncture group, which was improved remarkably in the acupuncture group.

4.4 Influence of XNKQ acupuncture on levels of monoamine transmitters in the brain of rats with MCAO

Acupuncture could regulate the abnormal metabolism of monoamine transmitters in rat brain with MCAO, which was mainly manifested as increasing of the abnormal de-

creased levels of noradrenalin and 5-hydroxytryptamine in the striate body, hippocampus and cerebral cortex, and regulating constructive and degradative metabolism of dopamine.

4.5 Mechanism of acupuncture: morphological response of the normal rat brain to the stimulation by different acupoints The results indicated that:

(1) Thalamic reticular structure, algescic circulatory channels, and viscus and mood adjusting struture in the brain could be excited by puncturing Zusanli (ST 36) and Tianshu (ST 25).

(2) Reactivity of the brain to the changes of external environment was decreased by needling some emergent acupoints such as Renzhong (DU 26), and Yongquan (KI 1).

(3) The medial dorsal nuclei of thalamus could be excited by puncturing Shenmen (HT 7) and Neiguan (PC 6).

4.6 Influence of acupuncture on the brain function of SAM - P/8 mice with the characteristics of senile dementia The results showed that

(1) Acupuncture could improve memory ability and abnormal behavior of the mice.

(2) Acupuncture could increase the activity of SOD and decrease the content of LPO simultaneously.

(3) Acupuncture could reduce the content of excitatory amino acids in the brain and eliminate the neurotoxicity.

4.7 Effect of acupuncture on the rats with dementia due to multiple cerebral infarction The results proved that:

(1) Acupuncture could improve the ability of memory and study by behavior experiments.

(2) Acupuncture could decrease the levels of excitatory amino acids in the brain and increase the activity of SOD in the brain and plasma.

(3) Acupuncture could increase the content of acetylcholine in the brain.

(4) Acupuncture could increase the content of nitric oxide, which might be the key factor to improve the cerebral circulation.

4.8 Influence of Acupuncture on Cerebrocellular and Hepatocellular Nucleoprotein of SAM - P/8 mice The results showed that:

(1) There was an age-related increasing trend of

nonhistone with low mobility, which could be decreased by acupuncture, especially by needling Renzhong (DU 26) and Neiguan (PC 6).

(2) There was an age-related decreasing trend of nonhistone with high mobility which could be increased by acupuncture, especially by needling Renzhong (DU 26) and Neiguan (PC 6).

(3) After puncturing Renzhong (DU 26) and Neiguan (PC 6), near the zone of 43 KD there existed a protein spectrum with dark color and wide range. The character of that protein should be further studied.

4.9 Influence of acupuncture on mRNA expression of CCK in brain of rats The results showed that:

(1) The mRNA expression of CCK was markedly increased at 6 hours after puncturing Renzhong (DU 26) and returned to the previous level 24 hours later.

(2) The mRNA expression of CCK was markedly increased at 3 hours after puncturing Fengfu (DU 16) and returned to the previous level 24 hours later.

(3) Non-acupoint acupuncture could lead to mRNA of CCK increase.

4.10 Influence of acupuncture on active genes of SAM - P/8 Mice The results showed that:

(1) Acupuncture could increase active genes in the nuclei of brain and liver cells and raise the level of gene transcription of aged P/8 mice.

(2) Acupuncture could increase the NHCP content in SAM - P/8, indicating that the controllability in gene transcription was strengthened.

4.11 Effect of acupuncture on the behavior, programmed cell death and related factors of SAM - P/10 with senile cerebral atrophy The results showed that:

(1) Acupuncture could increase the activity of SOD significantly, and decrease MDA content in brain tissue.

(2) Acupuncture could inhibit the programmed cell death in brain cells.

It has been proved by all clincial and basic researches mentioned above that XNKQ acupuncture therapy is much more effective in treatment of apoplexy

5 Treatment of complications

5.1 Pseudobulbar Paralysis Puncture Fengchi (GB 20), Tianzhu (BL 10), Wangu (GB 12) and Yifeng (AJ 17) in the direction of prominientia laryngea for 2 *cun* in

depth, by the reinforcing method of twirling the needle in high frequency and amplitude. Or, prick the retropharyngeal mucosa with a long needle .

5.2 Constipation Puncture waishuidao (EX - CA), waiguilai (EX - CA) and Fenglong (ST 40).

5.3 Respiratory failure Puncture bilateral qishe (ST 11).

5.4 Incontinence of urine, retention of urine Puncture Zhongji (RN 3), Qugu (RN 2), Guanyuan (RN 4), Sanyinjiao (SP 6), and Yinlingquan (SP 9). Moxibustion is applied to the local area, while massage and hot compress are also applicable too.

5.5 Ataxia Puncture Fengfu (DU 16), Yamen (DU 15), and cervical Jiaji points (EX - B2).

5.6 Double vision Puncture Fengchi (GB 20), Tianzhu (BL 10), Jingming (BL 1), and Qiuhou (EXHN

7).

5.7 Epilepsy Puncture Renzhong (DU 26), Daling (PC 7), Jiuwei (RN 15), Neiguan (PC 6), and Fengchi (GB 20).

5.8 Periarthritis of shoulder Puncture Jianneiling (EX - UE), Jianliao (SJ 14), Jianzhen (SI 9), Jianzhongshu (SI 15), and Jianwaishu (SI 14). Apply blood letting and cupping to the local painful point.

5.9 Vascular dementia Puncture Neiguan (PC 6), Renzhong (DU 26), Baihui (DU 20) Sishencong (EXHN 1), Fengchi (GB 20), Sibai (ST 2), Hegu (LI 4), Sanyinjiao (SP 6), and Taichong (LR 3).

5.10 Paradoxical sleep Puncture Shangxing (DU 23), Baihui (DU 20), Sishencong (EX - HNI), Sanyinjiao (SP 6), and Shenmen (HT 7).

“抗真菌药物与真菌感染诊治研究学术会议”的征文通知

由于抗生素和激素的大量应用以及化疗、艾滋病和人口老年化等导致免疫功能低下者增多,真菌感染已成为当前临床常见的疾病和研究的重要课题。为此,中国药学会抗生素专业委员会与中国医药集团国药展览有限责任公司、中国抗生素杂志社、中国新药杂志社,拟于2003年9月中旬在大连市共同举办该会,会议将邀请多位国内从事抗真菌研究与诊治的著名专家作综述报告,报告内容抗真菌药物国内外研究进展;抗真菌药物临床应用进展;艾滋病合并真菌感染的诊断与治疗;深部真菌病的诊断与治疗;真菌肝部慢性感染与治疗;阴道真菌感染的治疗进展;抗真菌抗生素与免疫制剂;皮肤真菌感染的诊断治疗进展;真菌脑膜炎感染与治疗;肺部真菌感染与治疗;真菌现状及耐药性等。此次学术会议将授予参会者国家级继续教育学分。并自即日起开始征集论文;无论文者亦欢迎参加会议。

征文内容:抗真菌药物的研究与开发;深部真菌与皮肤真菌感染疾病的诊断与治疗研究;抗真菌药物在临床应用中的经验与问题及不良反应的防治;抗真菌抗生素及药物的新制剂研究;抗真菌药物的工艺与质量研究;抗真菌药物的耐药性研究等。

论文要求:未公开发表的论文(综述文章一般不超过5000字,研究论文不超过3000字,另附800字摘要),用A4纸打印,随软盘(以WORD格式保存)一起寄至中国药学会抗生素专业委员会。征稿截止日期:2003年7月15日

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