

# **Acupuncture in the Treatment of Brain Disorders**

Yemeng Chen, L.Ac.  
New York Institute of Chinese Medicine  
155 First Street  
Mineola, NY 11501

In TCM, brain disorders include various neurological diseases and psychiatric disorders as well as some psychosomatic diseases. Anxiety, depression, stroke, and Parkinson's disease, even Alzheimer's disease, are all related to functional or organic variation in the brain.

In contemporary society, the morbidity rate of brain disorders has been increasing due to stressful social circumstances, poor dietary habits and sedentary lifestyles. It is estimated that 50 million Americans are affected each year by disorders and disabilities that involve the brain. It is also estimated that treatment, rehabilitation and related costs of these kinds of disorders and disabilities represent a substantial economic burden of \$305 billion annually.

As a result, different approaches to research on brain disorders are developing. Acupuncture, one of the most important aspects of alternative medicine, is an approach under investigation. Its effectiveness can be conformed by numerous references in ancient literature, as well as modern clinical trials, and ongoing laboratory research.

## **Acupuncture from Past to Present**

In a history that spans thousands of years, acupuncture therapy is indicated numerous times in the treatment of brain disorders. In ancient times, practitioners didn't have the same definition of brain disorders that are used today. But acupuncture was used to treated related ailments such as headache, seizures, maniac ad depressive psychosis, hemiplegia and facial paralysis all are described in the famous, *Canon of Medicine (Nei Jing)*, one of the earliest medical books in China.

The meridian theory is the foundation of clinical acupuncture practice. Acupuncture treats brain disorders by meridian circulation and regulation of the body's constitution. In the Canon of Medicine, the meridian theory is applied to the physical relationships between meridians and the brain. According to the Meridian chart, which maps the body's energetic network, the Bladder Meridian goes up to the vertex and connects to the brain, and the Governor Vessel also ascends to the brain.

In the last 50 years, acupuncture has paid more attention to the treatment of brain disorders. The invention of electro-acupuncture in the 140's increased the potential. Electro-acupuncture can be a substitute for needle manipulation and is especially good for acupuncture analgesia. Electro-acupuncture is also more effective in treating paralysis than classic acupuncture. Scalp acupuncture, requiring anatomical knowledge of the

cerebral cortex, was developed from 1960 to 1970s. Scalp acupuncture enhances the clinical efficacy in the treatment of cerebral diseases such as post-stroke hemiplegia and Parkinson's disease. Some acupuncturists report that auricular acupuncture can be applied to treat attention deficit disorders. All these micro-acupuncture systems are prevalent in current clinical practice.

### **Acupuncture & Psychological Disorders**

Some physical symptoms in the body due to psychological factors are called psychosomatic disorders. Traditional Chinese medicine emphasizes that emotional factors are important physical factors when identifying pathogens in causing internal organ disharmony. TCM treatment strategies understand that balancing the energetic flow of the body enhance emotional adjustment as well. Clinical information supports the fact that many diseases with psychosomatic components, such as hypertension, arrhythmia, chronic prostatitis, male erection dysfunction, and PMS, are effective indications for acupuncture treatment.

In September 1998, a new study from the University of Arizona, by John J.B. Allen, published in *Psychological Science, the Journal of the American Psychological Society* indicates the efficacy of acupuncture as the alternative treatment for major depression in 38 women. Specific treatment involved acupuncture for symptoms of depression. Following treatments specifically designated to address depression, 64% of the women experienced full remission. A comparison of the acute effect of the three 8-week treatment conditions showed that patients receiving specific acupuncture treatments improved significantly more than those receiving the placebo-like nonspecific acupuncture treatment. The result suggests that acupuncture can provide significant symptom relief in depression, at rates comparable to those of psychotherapy or pharmacotherapy.

“Conventional treatment for depression such as psychotherapy and pharmacotherapy provide significant relief for approximately 50 – 70 percent of those who complete treatment. Unfortunately, about a third of people seeking treatment prematurely, citing factors such as dissatisfaction with their current treatment of intolerable side effects. So taking all of this into account, over half of all depressed persons who enter treatment fail to recover.” Said Allen. “These statistics suggest that alternative treatment may be welcomed by those suffering from depression. In fact a recent survey among people who reported that they suffered from depression, seeking alternative treatments was more common than seeking the services of a traditional provider alone.”

### **Acupuncture & the Brain**

The blood-brain barrier is the body's own structure for self-protection, preventing all non-liposoluble chemical drugs from passing through. But this protective barrier also causes some difficulty in the treatment of brain disorders, since non-liposoluble drugs cannot directly enter the brain tissue to deliver a therapeutic effect. Acupuncture effectively bypassed this problem. After needling some specific points of the body

surface, called acupoints, the stimulation is afferent from peripheral nerves to the spinal cord, traveling up then finally reaching the cerebral cortex. And because acupuncture has no side effect such as chemical toxicity or addiction, it offers superiority in treating many brain disorders.

In conventional medicine, there are few effective methods for treating certain cerebral diseases such as infantile atelencephalia, pseudo bulbar paralysis, and seizure attack. Acupuncture can significantly relieve and improve some symptoms in these difficult cases. Experimental research indicates the after cerebral infarction acupuncture has an obvious effect in increasing the blood oxygen supply and brain blood flow in the surviving brain tissue, and increase the lateral circulation function so that surviving brain tissue have more compensatory ability. The other mechanisms of acupuncture in treating post-stroke hemiplegia include dilating vessels, improving vascular viscosity, and enhancing the sensory and motor function of the extremities.

Acupuncture, and especially electro-acupuncture, has been conformed to have anti-convulsive effect. Acupuncture has an instant influential effect on brain waves, normalizing brain waves in EEG reading and minimizing or seizing epileptic electricity during an episode. It can therefore treat seizure attacks by controlling the symptoms and extending the attack intervals.

Recent research has discovered that acupuncture could activate the reticular structure and cerebral cortex functions and regulate and harmonize their interrelationships. It can keep the cerebral cortex in a waking state and decrease over-activation. In this way, acupuncture an effectively address different psychological problems.

Acupuncture has obvious effects n the improvement of the cerebral cortex and certain nerve center functions, resulting in significant therapeutic effect in treating some psychosomatic diseases. For example, during acupuncture treatments for hypertension, it was found that vascular peripheral resistance decreased and brain blood flow improved. These therapeutic effects for maintaining normal blood pressure are most likely related to acupuncture causing the endogenous morphine-like substance to release and inhibit the neuron activity in the ventral lateral bulbar area.

### **Acupuncture & Stroke**

Stroke, also called brain attack, is a cardiovascular disease that affects the blood vessel supplying blood to the brain. Acupuncture is effective in the treatment of post-stroke hemiplegia. Several different clinical trials have revealed that it is far more effective than the spontaneous recovery rate. It is very important to differentiate the hemorrhagic and ischemic types of stroke. It is recommended that in stroke due to cerebral hemorrhage the patient should avoid acupuncture within two to three weeks of the initial attack. On the other hand, in stroke due to cerebral infarction, the patient should apply acupuncture treatment as soon as possible. Clinical experience shows that acupuncture has obvious effects for post-stroke hemiplegia within three months.

The author believes that the following principles benefit the early recovery of paralysis: combined acupoint selection based on the differentiation diagnosis by traditional Chinese medicine and local symptoms, combined therapies of body acupuncture and scalp acupuncture, and combined methods of electro-acupuncture and needle manipulation. In a controlled 108-patient case study, the total effective rate was 83.3% with his method.

### **Acupuncture & Senile Dementia**

Senile dementia, a disease found only in the aged, is characterized by impaired memory and intellectual decline. The two main types are Alzheimer's disease, due to brain degeneration, and multi-infarct dementia. Unfortunately, patients suffering from severe dementia place a heavy burden on their families and community. In the author's pilot study on acupuncture treatment for these difficult cases, the trial showed, in 38 cases of senile dementia, the acupuncture therapy is effective for multi-infarct dementia; the rate of success being 42.85% and of improvement 42.86%. Three months later, the major rate of intellectual decline varied from 39.46% to 27.52%. Although the intellectual scale of the patient in successful cases is still lower than that of a normal group of the same age, most showed significant improvement of symptoms of body disorders, dysgnosia, and mental and emotional abnormalities. This research was repeated and conformed by other scholars in this area in subsequent years.

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