

# Acupuncture Migraine Remedy Found

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Acupuncture relieves migraines. Researchers conclude that acupuncture decreases the frequency of migraine attacks and reduces migraine intensity. Additionally, researchers have discovered biological mechanisms activated by acupuncture in the alleviation of migraines.



Vijayalakshmi et. al., finds electroacupuncture more effective than “conventional drug therapy” for the treatment of migraines.

Electroacupuncture significantly outperformed the drug flunarizine in the treatment of migraines. Patients showed superior patient outcomes using acupuncture including pain relief, psychological profile and quality of life improvements, and reductions in migraine related disabilities. The researchers formally recommend acupuncture as an alternative or adjunct method of care for migraine patients.

One key pain relieving mechanism may be acupuncture’s ability to stimulate a pain relieving substance. Goldman et. al., from the University of Rochester Medical Center (New York) and the Boston University School of Medicine (Massachusetts) note that “acupuncture releases a natural pain-relieving molecule

into the body.... Adenosine is a key to reducing pain during acupuncture treatment.”

Ling Zhao et. al., conclude that acupuncture is effective in the treatment of migraines and reduces pain intensity levels. Zhou et. al., find acupuncture effective in the prevention of migraines and links acupuncture’s therapeutic benefits to its ability to stimulate MLCK expression. The expression of myosin light-chain kinase (MLCK) is involved in the regulation of smooth muscle contraction. The researchers document a correlation between acute migraine attacks and decreases of MLCK via the CGRP (calcitonin gene-related peptide) signal system. The researchers discovered that applying acupuncture to acupoint GB20 (Fengchi, Wind Pool) successfully upregulates MLCK expression and has “preventative and curative” effects for migraine patients.

The research confirms Traditional Chinese Medicine (TCM) theory stating that acupuncture point GB20 is effective in the treatment of headaches. According to TCM theory, GB20 benefits the head, benefits hearing and vision, clears the sense organs, and alleviates pain. This acupoint is located below the occiput in the hollow between the origins of the sternomastoid and trapezius muscles. It is a pair of acupoints found in the depression at the base of the skull. Indications for application of GB20 include headaches, migraines, eye disorders, vertigo, tinnitus, insomnia, febrile diseases, seizures, sinusitis and rhinorrhea. This point is important in TCM because it is the meeting point of the gallbladder and sanjiao channels with the yang motility and yang linking vessels.

Dr. Cayir et. al., conclude that there is a “clinically relevant decrease in MMP-2 activity in patients with migraine treated with acupuncture. The mechanism underlying the effect of acupuncture in alleviating pain may be associated with a decrease in MMP-2 activity.” Matrix metalloproteinase-2 (MMP-2) is an enzyme involved in vascularization, tissue remodeling, and inflammatory responses.

Dr. Cayir et. al., administered migraine patients a total of “10 sessions of acupuncture treatment. The points selected were bilateral ST8, ST44, LI4, LI11, LIV3, SP6, GB1, GB14, GB20, GV14, GV20, Yintang, Taiyang and ear Shenmen.” Blood samples were taken before and after treatment to determine MMP-2 concentration and activity levels. Acupuncture significantly alleviated the migraine pain intensity. Notably, MMP-2 concentrations remained relatively stable but MMP-2 activity significantly decreased.

Jie Yang et. al., note that acupuncture “induce(s) different cerebral glucose metabolism changes in pain-related brain regions and reduce(s) intensity of pain” for patients with migraines. In a randomized-controlled study using PET-CT neuroimaging, acupuncture was shown to be effective for migraine pain reduction. The imaging revealed that acupuncture raised glycometabolism in the middle temporal cortex, orbital front cortex, middle frontal gyrus, angular gyrus, post cingulate cortex, the precuneus and the middle cingulate cortex. Acupuncture simultaneously lowered glycometabolism in the parahippocampus, hippocampus, fusiform, postcentral gyrus, and the cerebellum in migraine patients. The study also showed that acupuncture point choices determined the changes in brain glycometabolism. The researchers note that this measurable phenomenon indicates acupuncture point specificity; specific acupuncture points have specific effects.

Subjects with migraines were separated into three groups: traditional acupuncture group (TAG), controlled acupuncture group (CAG), non-intervention group. The TAG group received acupuncture stimulation at TB5 (Waiguan), GB34 (Yanglingquan) and GB20 (Fengchi). The CAG group received acupuncture at ST8 (Touwei), LI6 (Pianli) and ST36 (Zusanli). The non-intervention group did not receive treatment.

The TAG group was more effective than the other groups at reducing migraine related pain. Additionally, the glycometabolism was higher in the TAG group than in the non-intervention group in the middle temporal cortex, orbital frontal cortex, middle frontal gyrus, angular gyrus,

post cingulate cortex, precuneus, and the middle cingulate cortex. The TAG group decreased glycometabolism in the parahippocampus, hippocampus, fusiform, postcentral gyrus and cerebellum more than in the non-intervention group. The CAG group more greatly increased glycometabolism in the middle temporal cortex, supratemporal gyrus, supramarginal gyrus and the middle cingulate cortex than was measured in the non-intervention group. The CAG group decreased glycometabolism more greatly than the non-intervention group in the cerebellum.

Guo et. al., conclude that acupuncture is more effective than flunarizine hydrochloride for controlling migraines. Researchers compared a Traditional Chinese Medicine (TCM) combination of acupuncture and tuina massage with the oral medication flunarizine hydrochloride. The TCM treatment was significantly more effective than the drug treatment for reducing pain frequency, intensity and duration due to migraines. The acupuncture combined with tuina group had a total effective rate of 93.8% whereas the medication group only achieved a 63% total effective rate.

Additionally, the acupuncture with tuina group had significantly fewer relapses. As a result of the findings the researchers conclude, "Combining electroacupuncture and local tuina can obtain better effect and lower relapse rate than oral Flunarizine Hydrochloride capsules in migraine patients."

The acupuncture group received electroacupuncture at ashi points, Taiyang, ST8 (Touwei), GB13 (Benshen), Xuanlu (GB5) and GB41 (Zulinqi) on the side with focal pain. GB20 (Fengchi), GV20 (Baihui) and GV24 (Shenting) were needled bilaterally. Secondary acupuncture points were added for specific disorders.

LR3 (Taichong), KI3 (Taixi) and GB43 (Xiashi) were added for headaches due to liver yang rising. CV12 (Fenglong) and SP9 (Yinlingquan) were added for cases of headache due to phlegm turbidity. PC6 (Neiguan), SP10 (Xuehai) and BL17 (Geshu) were added for cases of headaches due to blood stasis. The treatment principle was to dredge the channels, remove pathogenic factors and stop pain.



The acupuncture treatments were applied in the seated patient position. Needles were 0.30 mm in diameter and 25 - 50 mm in length. Deqi sensation was evoked at the acupoints followed by 1 minute of sedating technique by either twirling or rotating. Electroacupuncture employed a sparse-dense wave and the frequency ranged between 2 - 100 Hz. Total needle retention time was 20 minutes and the acupuncture was applied once per day. One course of treatment consisted of 10 days. Two courses of treatment were applied with a 3 day break between courses of care.

Tuina massage was applied with several techniques. Regions receiving tuina massage were at Yintang, Taiyang, GV20, GB20, ST8, TB20 (Jiaosun) and BL2 (Cuanzhu). Overall, the head

received tuina care including the forehead and lateral sides at the gallbladder foot-shaoyang channel.

Acupuncture with tuina consistently outperformed the medication group. As a result of the findings, the researchers concluded that acupuncture combined with tuina is effective for the treatment of migraines and is more effective than flunarizine hydrochloride.

References:

Vijayalakshmi, I., N. Shankar, A. Saxena, and M. S. Bhatia. "Comparison of effectiveness of acupuncture therapy and conventional drug therapy on psychological profile of migraine patients." *Indian journal of physiology and pharmacology* 58, no. 1 (2013): 69-76.

Goldman, Nanna, Michael Chen, Takumi Fujita, Qiwu Xu, Weiguo Peng, Wei Liu, Tina K. Jensen et al. "Adenosine A1 receptors mediate local anti-nociceptive effects of acupuncture." *Nature neuroscience* 13, no. 7 (2010): 883-888.

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Zhao, Ling, Ji-xin Liu, Ying Li, Wei Qin, and Fan-rong Liang. "EFFECTS OF LONG-TERM ACUPUNCTURE TREATMENT ON RESTING-STATE BRAIN ACTIVITY IN MIGRAINE PATIENTS: A COMPARATIVE STUDY ON ACTIVE ACUPOINTS AND INACTIVE ACUPOINTS." *Journal of Integrative Medicine* 3 (2014): 234.

ZHOU Pei-juan, LI Bai, WANG Ai-cheng, LIU Chun-yan, WANG Yu, [Effect of Fengchi Point on the Expression of Myosin Light Chain Kinase on Middle Meningeal Artery of Migraine Model rats,] *Acta Chinese Medicine and Pharmacology*, 2014,(5), R285.5.

Cayir, Yasemin, Gokhan Ozdemir, Mine Celik, Hulya Aksoy, Zekeriya Akturk, Esra Laloglu, and Fatih Akcay. "Acupuncture decreases matrix metalloproteinase-2 activity in patients with migraine." *Acupuncture in Medicine* 32, no. 5 (2014): 376-380.

A PET-CT study on specificity of acupoints through acupuncture treatment on migraine patients. Jie Yang, Fang Zeng, Yue Feng, Li Fang, Wei Qin, Xuguang Liu, Wenzhong Song, Hongjun Xie, Ji Chen, Fanrong Liang.

Guo, Qing, Yu Hua, Hai-qin Wang, Ying Li, and Quan Ji. "Therapeutic effect observation on combining electroacupuncture and tuina for migraine." *Journal of Acupuncture and Tuina Science* 12, no. 3 (2014): 174-179