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Acupuncture as a Complementary Treatment for Migraine Headaches

Dennis Grech[1]*, George Gorgy[1], Misha Payant[2] and Alex Bekker[1]

[1]Department of Anesthesiology, New Jersey Medical School, USA

[2]Dean of East West College of Natural Medicine, Sarasota, USA

***Corresponding author:** Dennis Grech, Department of Anesthesiology, New Jersey Medical School, USA

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The treatment of migraine headaches has eluded the medical field for decades. Recent advances in pharmaceutical management have helped many migraine sufferers. Reliance on medications for the prevention or rescue of chronic migrainers has many drawbacks such as cost, medicinal side effects and incomplete success from medical treatment.

Prevention of migraines has proven especially difficult when solely pharmaceutical interventions are utilized. As in other ailments, the incorporation of multiple treatment strategies may have the best outcome for prevention of migraine and assist patients with the symptoms of migraine once it has begun.

As an allopathic physician trained in western medicine, with a Medical Degree, Board Certification in Anesthesiology, and working in a University Based Pain Management Clinic, I have experience with patients who have a multitude of Chronic Pain Syndromes including migraine headaches. Throughout my professional career I have come into contact with many patients who have experienced repeated onset of migraines despite the customary modern treatments. I have encountered first-hand many patients who have suffered for decades from debilitating nausea, vomiting, photophobia, visual aura. Many patients experience mandatory cessation of all activities until symptoms subside. These symptoms persist despite being treated with the traditional medicinal protocols.

Migraines frequency peaks between 15 and 24 years of age with the highest prevalence between 35-45 years of age. The International Headache Society classifies migraine with 6 subtypes [1]. Symptoms include visual disturbances/aura, photophobia, motor weakness, nausea, vomiting. Duration can range from an hour to more than 3 days in rare instances. Causality has been attributed to weather, emotion, sexual activity, diet, menstruation, and hypertension. A 3-question screen is used to determine frequency of headaches, visual disturbance, and inability to work, study or perform daily tasks. Positive response to 2 of 3 questions result in a 93% chance headache is migraine. Positive response to 3 of 3 questions results in a 98% chance headache is migraine

The causes of migraines come from many sources. Sensory input from the trigeminal, glosspharyngeal, and vagus nerves are believed to be partly responsible. Humoral factors, such as the type of food one eats and glucose levels, and environmental factors, like certain smells and barometric pressure changes, also play a part in causing migraines.

Currently accepted treatment for migraines is based on pharmacological intervention with triptans, caffeine, NSAIDS, ergots and antiepileptic medications. Decreasing exposure of risk factors is also advised. Some have great success with these methods. However, there are many patients that still suffer from severe migraines after utilizing the provincial treatment protocols set by their allopathic practioners.

Which patient is right for complementary medicine treatment of migraine? Patients refractory to allopathic treatment, patients who believe in prevention, patients who do not want to take pharmaceutical agents, and patients who do not have adequate health insurance to pay for expensive medications can benefit from complementary medicine. Traditional Chinese Medicine (TCM) has been studied for many years. Traditional Chinese Medicine incorporates three modalities: acupuncture, herbal medicine and physical conditioning such as Yoga or Chi Gong.

Numerous PET and functional MRI scans have shown that acupuncture modulates specific regions of the brain. It has been postulated that this is caused by alterations in the secretion and activity of norepinephrine, Angiotensin II, serotonin, encephalin, and beta-endorphin. TCM states that the body has natural patterns of Qi (pronounced “chee”) that circulate in channels called meridians. TCM also states that certain symptoms, including migraine headaches, stem from the unbalance, blockage, or disruption of Qi flowing through meridians. TCM uses acupuncture to relieve these disturbances in Qi and to restore natural flow through the meridians.

Acupuncture is widely accepted by international health agencies such as the WHO to have strong analgesic effects. Additionally, the WHO has validated the use of acupuncture for any chronic and acute ailment including migraine headaches.

After studying acupuncture and traditional Chinese medicine as a postdoctoral fellow, I began to incorporate its principles when treating my refractory migraine patients at the Rutgers University Center for Comprehensive Pain.

Each patient I see receives a complete history and physical. Then, acupuncture treatment is tailored to each patient based on their findings. The treatment regimen is electroacupuncture using 30 ga acupuncture needles at various locations along key meridians. The treatments are prepared according to the principles of the ancient text of the Nei Jing, which dates back to 305 B.C.

Many patients saw decreased frequency and intensity of migraine

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headache after a few sessions. Most patients treated reported no use of rescue medications and cessation of nausea, vomiting or photophobia as they had previously exhibited within a few weeks. The most common acupoints utilized were: Li 3, St 36, GB 34 and GV 20. Ear acupoints Shen Men was also utilized.

Some work has been done to help incorporate Tradition Chinese Medicine and Acupuncture into the daily treatment of patients with migraine headaches [2]. Much research has been published to support the use if acupuncture in the treatment of migraines.

Linde et al. Reviewed 22 trials of 4,419 patients with migraine pain that compared acupuncture to no treatment or routine care [3]. After 3-4 months, patients who received acupuncture had fewer headaches. Their objective was to investigate acupuncture effect compared with sham acupuncture and no acupuncture with migraine patient. The (should this say the study??/delete sample) sample had 3 randomized groups, N= 302 patients (88% women), 43 y/o mean (SD-11), migraine headaches (international headache society criteria), treated at 18 outpatient centers in Germany. Acupuncture group and the sham acupuncture group were administered over 8 weeks in 12 sessions. Patients completed a headache diary from week 4 to week 12 and week 21 to week 24. No difference was detected between the acupuncture and the sham acupuncture groups (0.0 days, 95% confidence interval, -0.7 to 0.7 days; P = .96) Linde concluded that true acupuncture was no more effective than sham acupuncture in reducing migraine headaches. However, both acupuncture methods were more effective than control group.

Busko's study in 2009, "Migraines, Tension-Type Headaches Response to Acupuncture" found that Acupuncture is at least as effective as prophylactic drugs for migraines and benefit some patients with frequent tension-type headache [4]. Acupuncture decreased the frequency of headaches and migraines by 50% for half of the patients. Sham acupuncture and acupuncture showed similar results. Their conclusion was that needle location was not the determining factor for patient's improvement. 4 trials showed acupuncture resulted in fewer adverse effects and greater improvement than prophylactic drug treatment.

Pickett put forth a review in 2010, "Acupuncture for migraine and recurrent Headaches". One study stated that patients who were in the behavioral study group reported less medication use and fewer headaches than the acupuncture group [5]. Another study said that patients on metroprolol suffered more side effects but less frequency, duration, and intensity of headaches when compared to the acupuncture group. A third paper showed the number of patients receiving true acupuncture having >50% symptom reduction was 16 out of 20, whereas the number of patients receiving sham acupuncture having >50% symptom reduction was only 3/20. Their conclusion was that while the small sample sizes and overall quality of the studies prohibited them from making a straightforward recommendation of acupuncture, the treatment "seems to be relatively safe in the hands of qualified providers.

Lastly, a study published in the British Medical Journal "Acupuncture for chronic headache in primary care- A Large Pragmatic, randomized Trial" (BMJ). For this study, a Cochrane review of 26 randomized trials of acupuncture for headache was performed [6]. The authors concluded that although existing evidence supports the value of acupuncture, the quality and amount of evidence are not fully convincing. The parameters evaluated for each patient included headache, health status, days off sick, and use of resources for treatment of with chronic headache. A sample of 401 patients with chronic headache, predominantly migraine was selected. Randomization was done by using a biased coin to allocate patients. This was used to minimize age, sex, diagnosis, headache score at baseline, duration of headache disorder variables. Patients were randomized to two groups: acupuncture or non-acupuncture group.

Patients in acupuncture group received 12 treatments in addition to standard care from their general practitioner. Patients in avoid-acupuncture group received general care from GP only.

The acupuncture point prescriptions used were individualized to each patient. The study was modeled on a double blind, placebo controlled trial. However, one limitation was that patients were not blinded and may have given biased assessments of their headache scores. Measures to minimize bias included minimal contact between trial participants and study team members and educating patients about bias. Patients completed daily diary of headache and medication for 4 weeks at baseline then at 3 months and 1 year after randomization. Severity ranked on 6 point Likert scale (box listed) 0-no headache, 3-"headache is painful, but I can do my job or usual tasks", 5- "intense incapacitating headache." Their conclusion was that acupuncture leads to persistent, clinically relevant benefits for primary care patients with chronic headache, particularly migraine. In addition, they stated that expansion of NHS acupuncture services should be considered. Improvements in quality of life, decreases in use of medication visits to general practitioners, and reductions in days off sick were all observed.

A review of these important articles mentioned above demonstrates that there has been some research done for acupuncture and its incorporation into western medicine. However, the data presents mixed outcomes, which indicates that further research needs to be conducted. The practical basis of treatment in an acupuncture research project presents some challenges. The gold-standard for evidence-based medicine is the double blind randomized control with a placebo. How can one use a true placebo when it comes to acupuncture?

Some published works have used different acupuncture penetrating points than the ones specifically prescribed for the person (or normally prescribed). This is known as sham acupuncture. Another possibility is to use a Streitberger needle. This needle sits on the base of the skin and seems like it is puncturing the patient's skin. However the needle is either not touching the skin or may just touch the outer surface. Acupuncture naïve patients ideally are not supposed to spot the difference.

Regardless of the limitations of the current literature, many chronic migraine patients have seen real benefits with acupuncture treatment. In the future I foresee many more western practitioners utilizing acupuncture treatments part of the multimodal management of patients suffering from migraine headaches.

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