

The role of acupuncture in the treatment of migraine

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See related research article by Li and colleagues on page 401 and at www.cmaj.ca/lookup/doi/10.1503/cmaj.110551 and research article by Smelt and colleagues on page E224 and at www.cmaj.ca/lookup/doi/10.1503/cmaj.110908

In general, the harder a medical problem is to treat, the more treatment strategies exist. This observation is certainly true for migraine. Patients and physicians are constantly looking for alternatives to drug therapy, which is effective in the short term but may have severe unwanted effects in the long term.

Nonpharmacologic treatments begin with common-sense advice, such as educating patients about headache and its management, identifying and managing triggers (e.g., keeping a headache diary) and modifying lifestyle. Some evidence exists for the benefit of behavioural treatment (e.g., relaxation, biofeedback, and cognitive-behavioural therapy).¹ Riboflavin and coenzyme Q10 significantly decreased the frequency of migraine attacks, and the prophylactic efficacy of magnesium, particularly for children and migraines related to menstruation, has been substantiated.² Alpha lipoic acid has not been shown to reduce the frequency of migraine, and there is no clear evidence to support or refute homeopathy.² In general, most studies for these types of treatments are small and of low methodologic quality.

This is no longer the case for acupuncture. A German randomized controlled trial ($n = 302$) showed that acupuncture is more effective than no acupuncture. Another German randomized controlled trial ($n = 794$) showed that 11 acupuncture treatments given within a six-week period was at least as effective as a β -blocker taken daily over a six-month period.^{3,4} As a consequence of these and 20 other high-quality trials involving 4419 participants, the 2009 Cochrane review by Linde and colleagues⁵ found that there is consistent evidence that acupuncture is beneficial in the treatment of acute migraine attacks and that the available studies suggest that acupuncture is at least as effective as prophylactic drug treatment and has fewer adverse effects. Therefore, acupuncture should be considered an option for patients willing to undergo this treatment.⁵

Additional randomized control studies published since the 2009 review are in keeping with this conclusion. Yang and colleagues found that

24 acupuncture treatments, compared with topiramate, were more effective and safe (11 times more patients experienced adverse effects in the topiramate group than in the acupuncture group). Wang and coauthors reported that acupuncture was more effective than flunarizine in decreasing the duration of migraine attacks.^{6,7} Acupuncture has also been shown to be more effective than standard therapy for the treatment of tension headache, osteoarthritis, shoulder pain and lower back pain, with fewer unwanted adverse effects.⁸⁻¹²

These clinically important results are accompanied by another finding that is common in acupuncture studies: there is no evidence of an additional effect of “true” acupuncture over “sham” acupuncture.⁵ The current trial by Li and colleagues¹³ did not find a significant difference between traditional Chinese and sham acupuncture in the number of days with a migraine during the study period, but a significant difference was seen eight weeks after the end of treatment. In addition, they found small, but not clinically relevant, differences in the frequency of migraine, the intensity of migraine and the intensity of pain. In this trial, the outcome was independent of the “style” of acupuncture, chosen from three schools of Chinese acupuncture. Future meta-analyses should ask whether acupuncture is clinically effective without there being much difference between specific and nonspecific acupuncture points. Acupuncture textbooks describe acupuncture points as being small and difficult to localize, and I do not know how precisely practitioners locate these points (i.e., whether they are precise points or larger “fields”).

Competing interests:

Albrecht Molsberger has received payment for lectures on acupuncture at scientific meetings, providing continuing medical education for the Forschungsgruppe Akupunktur, and is president of the Forschungsgruppe Akupunktur.

This article was solicited and has not been peer reviewed.

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CMAJ 2012, DOI:10.1503/cmaj.112032

KEY POINTS

- A sound body of evidence exists supporting the use of acupuncture for migraine prophylaxis.
- Acupuncture is at least as effective as prophylactic drug therapy for migraine and it is safe, long-lasting and cost-effective.
- Although there seems to be little difference between the two, Chinese acupuncture points might be marginally more effective than non-Chinese points.

The strong effect of sham acupuncture has fuelled an ongoing debate about the role of placebos and belief systems in acupuncture and has even led to a new term: “acupuncture, the superplacebo.” Rather than describe these well-known arguments, I provide another perspective. According to the existing body of evidence, Chinese acupuncture points and non-Chinese points (sham) both have an effect, and there is not much difference between the different schools of acupuncture. Obviously, the biological system of the human body is redundant enough that putting 10–20 needles into the skin, twice weekly over 5–10 weeks has a beneficial effect. The Chinese observed this phenomenon some 2000 years ago, established a medical system and wrote textbooks about the points and areas for which they observed an effect. Over the centuries, clinical observations have accumulated and mingled with ideological influences, building up a sophisticated system with point location and selection becoming more and more precise and delicate.¹⁴ Today, data from sham-controlled trials suggest that we should turn back to the roots of Chinese acupuncture. As such, acupuncture textbooks should be read like roadmaps, with suggested main streets and fast lanes, that are easy to learn and teach. But Chinese roadmaps are not the only ones; other maps can be used too (e.g., Japanese and Korean acupuncture), and even off-road strategies, such as random sham points, work too. This point of view not only solves the problem of determining which acupuncture school is “right,” but it also solves the dilemma of Chinese versus sham acupuncture, and it takes away the sometimes stiff dogmatism of Chinese medicine. Acupuncture points and meridians are clinically efficient as teaching systems, but they are not physiologic systems.

On the basis of the existing evidence, acupuncture should be an option for the first-line treatment of migraine to supplement other non-pharmacologic treatment options. It is at least as

effective as prophylactic drug therapy, has longer lasting effects, is safe, seems to be cost-effective and reduces drug intake with possibly severe unwanted effects.¹⁵ All of this can be achieved even if point selection is not as dogmatic and precise as proposed by the Chinese system.

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