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Case Report

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Non-Pharmacologic treatment of migraine using and acupuncture: a case report

Abstract

Objective: The purpose of this case is to report on the results of non-pharmacologic treatment of a patient with chronic tension-type headaches (TTH) and migraine headaches (MH).

Patient: A 72year old male patient with a 42-year history and primary diagnosis of MHs was referred for acupuncture services. The MHs were unresponsive to Western biomedical care and traditional chiropractic treatment.

Intervention: The patient was treated 32 times over 4 months by a doctor of chiropractic who has acupuncture certification. Treatment consisted of chiropractic manipulation, acupuncture, and strengthening exercises.

Conclusion: This case proves that acupuncture treatment can be used for the management MH.

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Introduction

Migraine headache (MH) is a common health condition of headache. Migraine headache is most common in those 25-55years of age.[1,2] The majority of those with headache have migraine (14%), tension-type (36%), or both (14%).

Most migraine patients report that headaches have adverse affects on employment and productivity.[3,4] Indirect costs exceed the direct for MH, with an estimated financial burden of $12 billion to US employers nationwide.[6] Estimated annual US direct costs are overly reported at $11 billion a year.[7] Recent studies show direct and indirect costs to manage migraines are extremely expensive and there is a greater financial burden linked to indirect costs.[8,9] Reports that the estimated indirect costs in the United States are 13 billion dollars per year and direct medical costs are approximately 1 billion dollars per year which is very high (18). It is estimated that that 2.6 million women and 0.8 million men have migraines[2] Those who experience migraine report a reduction in ability to complete daily activities including self care, family care, and poor work performance (19). Finding successful management strategies for these headaches is in the best interest of the patient, the provider, and the agencies funding treatment and overall national wellness and productivity.

Patients with both migraine and tension-type headaches (TTH) can be a a difficult challenge for healthcare providers. Symptoms and criteria for each type of headache, based on the International Headache Society (IHS) diagnostic criteria, are summarized in Table 1.[10,11] There are various pharmacological prophylactic and interventional methods, however non-pharmacologic treatment is not commonly reported in the literature. Non-pharmacologic management may be preferred by some patients with MHs, such as those with comorbid mood or anxiety disorders, poor reaction to medication, or those who prefer to use non-drug therapies, such as complementary and alternative therapies (known as CAM).[12] A recent study by Metcalfe A[12] showed that a large proportion of people use CAM services for various chronic diseases, including MH. Of the population studied, 19% of those with migraine sought CAM services and that those with migraine were statistically more likely to use CAM services. This case report proves the efficacy of acupuncture of a patient with a 42year history of MH, TTH, and neck pain.[13,14]

Table 1 International Headache Society diagnostic symptom criteria of migraine headache with aura and tension-type headache

MH with aura
At least 5 episodes with the criteria below
Headaches lasting 4-72hours
At least 2 of the following a. Unilateral location b. Pulsating quality c. Moderate to severe intensity Aggravated by physical activity (eg, walking up stairs)
At least 1 of the following during a headache episode a. Nausea and/or vomiting b. Photophobia and/or phonophobia
Aura consisting of at least 1 of the following, but no motor weakness a. Fully reversible visual symptoms such as flickering lights, spots or lines b. Fully reversible sensory symptoms such as pins and needles c. Fully reversible dysphasic speech disturbance Symptoms develop gradually and last no longer than 1 hour

Methods

History

A 72year old male was referred from his primary care physician to chiropractic services with the primary diagnosis of MHs. The MHs began 42years prior (1-2 times per month) with nausea, vomiting, photophobia, sonophobia, auras. The MHs were on the right side and lasted 3days. On an 10 pain severity VAS scale, the score was 5/10 and his Neck Disability Index (NDI) score was 20/50. No amaurosis,

diplopia, unilateral numbness, or weakness signs or symptoms were reported. Their was no history of head or neck trauma and no MH related diagnostic imaging or blood work was reported or noted in his medical record.

The medical physician diagnosed cluster headaches 12years prior. Self-treatment included Naproxen. The current primary care doctor prescribed migraine medication that included Isometheptene/acetaminophen/dichloralphenzone (1-2 tablets, 4hours) and Sumatriptan . Headaches were throbbing pain in the temple regions. Neck pain was occasional with tightness and stiffness in the neck region with pain into the upper back region (thoracic). A review of systems was negative for factors associated with headache with the exception of diagnosis of malaria.

Physical examination showed active and pain free cervical and thoracic range of motion. Local regional moderate neck to upper thoracic pain was noted with bilateral right greater than left shoulder depression and foraminal compression. During spinal palpation, posterior-anterior spinal stiffness with mild to moderate midline spinous process tenderness was present over the C2-7 and T5-9 regions. Moderate tenderness was associated with palpation of the following 10 standardized acupuncture points: bilateral L45, TH16, GB27, GB22, GV24 and GV35. Endurance testing for deep cervical muscles in a supine position (cervical retraction holding the head 1 inch off the table) had a hold time of 19 seconds.

A treatment plan consisted of 3 visits a week for needle acupuncture using 10 sterile stainless steel 13mm length and 0.16mm diameter needles for 12minutes over bilateral LI4, TH5, GB20, GB21, and GV14, GV15,[15–17] and a neck strengthening home program.

The patient reported rapid improvement over 3weeks and presented on the 25th visit without MHs, TTH, or neck pain. A VAS of 2/10, a Neck Disability Index score of 4/50, and no report of MHs were noted on the 32 and final visit, approximately 4 months after initiation of this treatment plan.[18–20]

Discussion

This patient responded extremely favorably to acupuncture treatments, whereas previous chiropractic and medical care did not seem to alter the headache events. The significant improvement shows the efficacy of acupuncture for MH. This patient presented with typical TTH symptoms and fits the characteristics of a TTH patient. It is unclear how these therapies might address pathogenesis of headache. Mechanisms for TTH include central and peripheral models.[21] Stress is acknowledged as a contributing factor to TTH but how stress directly causes the headache is unclear. Proposed muscle contraction models may contribute to our understanding of TTH but the scientific evidence does not support stress as the primary cause of these headac.[21] The role of a central mechanism is becoming clearer in its contribution to TTH. It is theorized that prolonged nociceptive input results in central sensitization at the level of the spinal dorsal horn/trigeminal nucleus, resulting in TTH. Another theory is pain modulation and inhibitory mechanisms are altered, resulting in TTH. It is possible that these neurological mechanisms are influenced during chiropractic and/or acupuncture treatments.

Three current theories for the pathology of migraine are vascular, the neurological, and neurogenic.[12] Vascular theory, first proposed by Wolff in the late 1930s, suggests that vasoconstriction is the primary pathologic mechanism. Neurological theory suggests migraine is caused by abnormal functioning of brain neurons. Neurogenic theory suggests that neurogenic vasodialation results in inflammation of the meninges, resulting in migraine. In general, the primary themes of these theories involve the trigeminal system, vascular components, and pain generating factors.[22,23] It is unclear if spinal manipulation or acupuncture directly affects these migraine generators.

Standard Western biomedical care for MHs consists of pharmaceuticals and lifestyle changes (eg avoiding triggers, regular sleep and work habits)[24] and management is often based upon patient response to pharmaceuticals. Pharmaceutical interventions include: beta-blockers, antidepressants, anticonvulsants, calcium channel blockers, and serotonin antagonists.[25–32]

Conclusion

The migraine episodes for this patient after 35 visits of non-pharmacologic care, which included acupuncture management provided in an integrated hospital-based care environment. He reported no other MH events 2weeks following release from care.

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None

Conflict of interest

Author declares there is no conflict of interest towards this manuscript.

References

1. Cooke LJ, Becker WJ. Migraine prevalence, treatment and impact: the canadian women and migraine study. *Can J Neurol Sci*. 2010;37(5):580–587.
2. O'Brien B, Goeree R, Streiner D. Prevalence of MH in Canada: a population–based survey. *Int J Epidemiol*. 1994;23(5):1020–1026.
3. Lipton RB, Bigal ME. Migraine: epidemiology, impact, and risk factors for progression. *Headache*. 2005;45(Suppl 1):S3–S13.
4. Lipton RB, Stewart WF, Diamond S, et al. Prevalence and burden of migraine in the United States: data from the American Migraine Study II. *Headache*. 2001;41(7):646–657.
5. Pryse–Phillips W, Findlay H, Tugwell P, et al. A Canadian population survey on the clinical, epidemiologic and societal impact of migraine and tension–type headache. *Can J Neurol Sci*. 1992;19(3):333–339.
6. Hawkins K, Wang S, Rupnow M. Indirect cost burden of migraine in the United States. *J Occup Environ Med*. 2007;49(4):368–374.
7. Hawkins K, Wang S, Rupnow M. Direct cost burden among insured US employees with migraine. *Headache.* 2008:48(4):553–563.
8. Edmeads J, Mackell JA. The economic impact of migraine: an analysis of direct and indirect costs. *Headache*. 2002;42(6):501–509.
9. Lambert J, Carides GW, Meloche JP, et al. Impact of migraine symptoms on health care use and work loss in Canada in patients randomly assigned in a phase III clinical trial. *Can J Clin Pharmacol*. 2002;9(3):158–164.
10. Kaniecki R. Migraine and tension–type headaches: An assessment in challenges in diagnosis. *Neurology*. 2002;58(Suppl):S15–S20.
11. Headache Classification Committee. The international classification of headache disorders, 2nd ed. Cephalalgia 2004:24:1–160.
12. Metcalfe A, Williams J, McChesney J, et al. Use of complementary and alternative medicine by those with a chronic disease and the general population—results of a national population based survey. *BMC Complement Altern Med*. 2010;18(10):58.

13. Nelson CF, Bronfort G, Evans R, et al. The efficacy of spinal manipulation, amitriptyline and the combination of both therapies for the prophylaxis of MH. *J Manipulative Physiol Ther*. 1998;21(8):511–519.

14. Li Y, Liang F, Yang X, et al. Acupuncture for treating acute attacks of migraine: a randomized controlled trial. *Headache*. 2009;49(6):805–816.

15. American Medical Association. Current Procedural Terminology, Professional Edition, 2010 (CPT 2010). Chicago, Illinois: American Medical Association Press; 2009.

16. Allais G, DeLorenzo C, Quirico P, et al. Acupuncture in the prophylactic treatment of migraine without aura: A comparison with Flunarizine. *Headache*. 2002;42(9):855–861.

17. Melchart D, Streng A, Hoppe A, et al. Acupuncture in patients with tension–type headache: randomized controlled trial. *BMJ.* 2005;331(7513):376–382.

18. Linde K, Streng A, Jurgens S, et al. Acupuncture for patients with migrane. A randomized controlled trial. *JAMA*. 2005;293(17):2118–2125.

19. Hu XH, Markson LE, Lipton RB, et al. Burden of migraine in the United States: disability and economic costs. *Arch Intern Med*. 1999;159(8):813–818.

20. Bigal ME, Lipton RB. The epidemiology, burden, and comorbidities of migraine. *Neurol Clin*. 2009;27(2):321–334.

21. Pinkerman B, Holroyd K. Menstrual and nonmenstrual migraines differ in women with menstrually–related migraine. *Cephalalgia*. 2010;30(10):1187–1194.

22. Cathcart S, Winefield AH, Lushington K, et al. Stress and tension–type headache mechanisms. *Cephalalgia*. 2010;30(10):1250–1267.

23. Arulmozhi DK, Veeranjaneyulu A, Bodhankar SL. Migraine: current concepts and emerging therapies. *Vascul Pharmacol*. 2005;43(3):176–187.

24. Galletti F, Cupini LM, Corbelli I, et al. Pathophysiological basis of migraine prophylaxis. *Prog Neurobiol*. 2009;89(2):176–192.

25. Adelman JU, Adelman RD. Current options for the prevention and treatment of migraine. *Clin Ther*. 2001;23(6):772–788.

26. Sprenger T, Goadsby PJ. Migraine pathogenesis and state of pharmacological treatment options. *BMC Med*. 2009;7:71.

27. Vernon HT. The effectiveness of chiropractic manipulation in the treatment of headache: an exploration in the literature. *J Manipulative Physiol Ther*. 1995;18(9):611–617.

28. Parker GB, Tupling H, Pryor DS. A controlled trial of cervical manipulation of migraine. *Aust N Z J Med*. 1978;8(6):589–593.

29. Bronfort G, Assendelft WJ, Evans R, et al. Efficacy of spinal manipulation for chronic headache: a systematic review. *J Manipulative Physiol Ther*. 2001;24(7):457–466.

30. Sun Y, Gan TJ. Acupuncture for the management of chronic headache: a systematic review. *Anesth Analg*. 2008;107(6):2038–2047.

31. Johnson C. Health care transitions: a review of integrated, integrative, and integration concepts. *J Manipulative Physiol Ther*. 2009;32(9):703–713.

32. Boon HS, Mior SA, Barnsley J, et al. The difference between integration and collaboration in patient care: results from key informant interviews working in multiprofessional health care teams. *J Manipulative Physiol Ther*. 2009;32(9):715–722.

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