Chiropractic management of a patient with persistent headache

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Abstract

Objective: The purpose of this case report is to describe chiropractic care of a patient with persistent headache treated using chiropractic manipulative therapy and adjunct treatments.

Clinical features: A 54-year-old multiparous woman had chronic debilitating headaches for 11 months. Previous care from a variety of specialties had brought no appreciable relief.

Intervention and outcome: The patient was managed with chiropractic manipulative therapy, injections, and electromagnetic therapy. Five treatments over 6 weeks brought resolution of the headaches.

Conclusion: This patient with persistent headache responded favorably to a course of chiropractic and adjunctive care.

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Introduction

Headache comprises 12% of the average chiropractic patient load according to the *2010 Practice Analysis of Chiropractic*.¹ Lifetime prevalence of headaches (including anybody with any form of headache), migraine, and tension-type headache has been reported to be 93%, 8%, and 69% in men and 99%, 25%, and 88% in women. The point prevalence of headache was 11% in men and 22% in women.²

In 2004, 80% to 90% of the US population reported a history of headache during adulthood; 30% to 50% reported the headaches to be severe. The percentage of adults who experienced a severe headache or migraine during the preceding 3 months decreased with age, from 18% among persons aged 18 to 44 years to 6% among persons aged 75 years or greater. In every age group, the proportion of women who experienced severe headache or migraine was greater than men.³

In European countries, 7.6% of people aged 15 or older reported having a chronic morning headache.⁴ Primary headache disorders—the most common being tension-type headache and migraine—that cause recurrent or persistent head pain without

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any clear underlying cause are common in the general population.⁵

Clinical care rendered by doctors of chiropractic typically includes chiropractic spinal manipulation.¹ Chiropractic care of headache also includes modalities and other forms of management in addition to manipulative procedures, such as lifestyle changes, exercises, and physical therapy modalities.⁶⁻¹¹ In some jurisdictions in the United States, the practice of chiropractic allows for adjunctive care to include nutraceuticals and electromodalities. The purpose of this case report is to describe chiropractic care of a patient with persistent headache treated using chiropractic manipulative therapy (CMT) and other adjunct treatments.

Case report

History

A 54-year-old multiparous woman who worked as a teacher's aide presented with chronic debilitating headaches. The headaches had been present for the past 11 months and were of insidious onset. The headache-related symptoms included sensitivity to heat, light, and touch in the area of her scalp and face; and the pain was characterized as "stinging."

She had been evaluated by neurologists; neurosurgeons; chiropractors; eye, ear, nose, and throat specialists; pain management physicians; and physical therapists and had been told a variety of reasons for her headaches, including idiopathic migraine headaches, cluster headaches, a herniated disk in the cervical spine, and "too much pressure in her spinal cord."

After attempting care from various practitioners, no relief had been obtained during the 11 months except for acetaminophen/oxycodone, which (in her words) "takes the edge off." The pain medication regimen caused her gastrointestinal distress. She reported taking fluoxetine, levothyroxine, and ropinirole, prescribed for restless leg syndrome. Upon presentation, her headache was the most severe she had experienced so far. No other family member experienced similar headaches according to the patient.

Her examination showed blood pressure of 106/95 mm Hg and a pulse rate of 58 beats per minute in the supine position and blood pressure of 99/67 mm Hg and a pulse rate of 70 beats per minute in the standing position.

Her cervical range of motion was moderately limited by 10% of normal in cervical flexion and extension as

determined by observation. Cervical intersegmental restrictions were noted in the C2-3, C5-6, and C6-7 segments and a spinous right rotation of T2 on T3 based on palpatory examination. Cervical flexor and extensor muscle strength was +4 in extension and +5 in all other planes. Deep tendon reflexes of the biceps, triceps, and brachioradialis were +2 bilaterally. Bikeles sign (resistance to extension of the forearm caused by traction on the brachial plexus)¹² was negative bilaterally, suggesting no involvement of the brachial plexus. Cervical compression was uncomfortable, and cervical distraction was unremarkable. Result of a cranial nerve evaluation of IX, V, and VII—those nerves whose distribution was associated with the area of complaint—was normal.

Imaging

Imaging was deferred because orthopedic and neurological test results were relatively unremarkable and the patient had extensive previous imaging. Multiple (3) attempts to obtain previous imaging studies and/or reports had resulted in a nonresponse from previous providers.

The patient provided reports of 2 lumbar punctures done on March 6 and August 17, 2012. Results of both studies, undertaken to rule out meningitis, were reported as unremarkable.

Laboratory

Results of laboratory tests completed at Intermountain Health Care Labs (Tremonton, UT) on the cerebral spinal fluid of the August 17, 2012, study were normal. Additional laboratory results that were performed on August 17 at a local major hospital facility included partial thromboplastin time, prothrombin time, deamidated gliadin peptide antibody immunoglobulin A, tissue transglutaminase antibody, immunoglobulin A, ferritin, celiac reflexive panel, free thyroxine and thyroid stimulating hormone, and a complete blood count. All laboratory test results were within normal limits.

Other evaluation procedures

The patient presented a report of an echocardiogram performed on March 6, 2012. The only abnormality reported was "trace to mild mitral and aortic regurgitation."

A nutritional evaluation based on a self-reported symptom survey showed signs of biliary and liver

dysfunction, challenges in sugar handling, and a suggestion of hyperthyroid activity.¹³

An electroacupuncture examination according to Voll¹⁴⁻¹⁶ was performed that showed imbalances in the appendix, connective tissue, and gallbladder energy baselines.

Diagnosis

An initial working diagnosis of headache of a chronic and debilitating nature (*International Classification of Diseases, Ninth Revision*: 307.81/784.0, tension headache) was established. The patient also demonstrated cervical movement restrictions based on palpatory and observational examination, and nutritional imbalances based on symptom survey findings.

There are over 150 diagnostic headache categories.^{17,18} This particular case was labeled as a tension headache. However, because this classification is under the general category of psychiatric condition, a more appropriate code could have been 784.0. The 2013 *International Classification of Diseases, Ninth Revision, Clinical Modification*, diagnosis code for headache (784.0) is “pain in the cranial region that may occur as an isolated and benign symptom or as a manifestation of a wide variety of conditions and pain in various parts of the head, not confined to the area of distribution of any nerve.”

A treatment plan including alternatives and risks associated with the proposed treatments was discussed with the patient. Treatments offered included intravenous micronutrient therapy (IV), CMT, B12 injections (neural therapy),¹⁸ and oral nutritional therapy. The patient indicated an understanding of the proposed treatments and associated risks and signed the consent-to-treat form.

Treatment

The IV treatment included carrier solution (100 mL saline), vitamin C (7-10 g), magnesium chloride (1200 mg), and pyridoxine HCL (B6, 400 mg).

Following the IV, the patient was given CMT (diversified technique to the occiput and C1 motor unit as described by Bergmann et al¹⁹) to the restricted areas.

Following CMT, the patient received neural therapy that included injection of B12 (methylcobalamin 1000 µg), 5% dextrose solution, and 2% procaine subcutaneously around the widest circumference of the head approximately every 0.5 in and has been labeled as a *crown of thorns* (Fig 1). This technique was described

by a Dr Huenke in Germany in the 1920s and was called *neural therapy*.¹⁸ Subcutaneous blebs were also administered in the skin over the mastoid process and along the suboccipital ridge.

The patient was instructed on home use of Migraspray (NatureWell, Inc, San Diego, CA; 10 sprays 3 times per day) and Cataplex E2 (Standard Process Laboratory, Palmyra, WI; 2 tablets 2 times per day). Cataplex E2 contains bovine orchic extract, calcium lactate, *Tillandsia usneoides*, bovine spleen, ovine spleen, inositol, bovine adrenal cytosol extract, oat flour, ascorbic acid, honey, Arabic gum, selenium yeast, mixed tocopherols (soy), and calcium stearate.²⁰ Migraspray is a homeopathic spray commonly used for migraine headaches (applied sublingually) and contains feverfew (*Pyrethrum parthenium*), goldenseal (*Hydrastis canadensis*), and larch agaric (*Polyporus officinalis*) carried to the third dilution. Cataplex E2 (taken orally) is designed to produce an antispasmodic action and is used in this case to have an effect on the vascular structures. This product is a phospholipid, which enhances oxygen utilization by the body.²¹

The staff contacted the patient the day following the first treatment, and the patient reported she had improvement. The patient was seen for follow-up for 4 additional treatments over the next 6 weeks. The patient reported that the intensity of the chief concern subsided with each progressive visit and activities of daily living became easier to perform. The patient was released from care after the fifth visit with a self-report of a 90% resolution of her headache symptoms.

Following the patient's IV treatment on June 14th, she requested a treatment using pulsed electromagnetic frequency therapy.²² This treatment uses a magnet to foster cellular healing.^{23,24} She received a 6-minute treatment with settings raised to patient tolerance and sensitivity.

Eight months after completion of care, we contacted the patient; and she reported no recurrence of her headache symptoms. No adverse events were reported throughout care. At the conclusion of care, the patient also signed a consent form to have the case submitted for publication.

Discussion

The treatment of headaches is fairly common in chiropractic practice¹; however, no published case reports have reported use of CMT with adjunct therapies of injections and electromagnetic therapy.

Fig 1. Location of injections “crown of thorns.”

The following is a discussion of the adjunct therapies provided to the patient in this case.

IV therapy

The use of IV therapy among Complementary and Alternative Medicine is only supported by anecdotal information and case reports, and the use of high-dose vitamin C seems to be widespread.²⁵ As an example, the use of IV high-dose vitamin C was found in one study to improve the quality of life in terminal cancer patients.²⁶ Although a specific mechanism is unknown, hypotheses include that vitamin C may have a therapeutic effect through basement membrane synthesis, neurotransmitter synthesis, and natural antihistamine,²⁷ all of which may have headache-related components.

Pyridoxine (B6) and cobalamin (B12)

A literature review suggests that pyridoxine (B6) and cobalamin (B12) may be helpful for treating

migraine headaches.²⁸ Recent clinical trials have suggested homocysteine reduction by high doses of folic acid, cobalamin, and pyridoxine may reduce progression of structural brain changes and cognitive impairment.²⁹ Pyridoxine (B6) is one of several therapeutic measures in the treatment of carpal tunnel syndrome³⁰; thus, this may suggest a potential role in ligamentous-related disorders with possible similarities to tension headache etiology.

B6 supplementation has been found to reduce the Pregnancy-Unique Quantification of Emesis and Nausea scores in pregnant women³¹ and has a positive association with systemic markers of inflammation, suggesting that activated cellular immunity is associated with increased catabolism of vitamin B6.³²

Magnesium chloride

Almost 48% of the US population consumed less than the required amount of magnesium from food in 2005-2006, and the direction is for a continued reduction of intake.³³ The treatment of migraine headache in women with magnesium deficiency has

been linked to the recovery of a large population of people with migraines due to the removal of unwanted nitrous oxide in the cells.³⁴ Magnesium has been used to address various conditions including arrhythmia, severe asthma, and migraine.³⁵ Reports on the use of magnesium includetreatment,³⁶ prophylaxis,³⁷ the treatment between migraine headaches,³⁸ and a placebo comparison study.³⁹ Magnesium has also been linked to the treatment of psychomotor activity and to emotional and behavioral responses.⁴⁰

Chiropractic manipulative therapy

The application of CMT for treatment of headache and neck pain is standard in chiropractic care.⁶ Several case reports have been published outlining the treatment of migraine and chronic headaches.⁷⁻¹¹

Neural therapy

Neural therapy is a treatment modality developed in Germany that aims to addresses dysfunction of the autonomic nervous system. It is thought that the autonomic nervous system can be disturbed by factors such as membrane instability caused by nutritional and hormonal deficits, food allergies, toxicity from metals and solvents, emotional factors, occlusal problems, chronic infections, biophysical stress, and an interference field that results when a group of cells (focus) create a disturbance to the system usually distant from their origin.⁴¹

Pulse electromagnetic field therapy

Magnetic therapy is the therapeutic use of static or pulsed magnetic fields for the purpose of treating diseases. This therapy has been described for the treatment of pain^{41,42} and migraine headaches⁴³⁻⁴⁶ and other conditions.⁴⁷⁻⁵¹ The theoretical mechanistic pathways are not well documented. Whereas the use of magnetic therapy has been present for many years, the use of specialized magnetic application in chiropractic practice is relatively recent and is in need of additional study.

Limitations

As this is a single case report, it cannot be inferred that other patients with headache would respond in a similar manner. It is not possible to determine if only one or a combination of the therapies was effective. It is possible that patient improvement was related to a

combination of therapies, and it is also possible that the patient may have improved irrespective of treatment rendered. This case study did not provide any form of control, making it impossible to rule out the effect of extraneous variables such as the natural history of the condition or other unreported events. This case study also failed to obtain a detailed analysis of previous care for her presenting condition. Other limitations include that there were no objective outcome measures used and that a more precise and detailed explanation of factors leading to the working diagnosis should have been performed. Further studies using these therapies are needed, individually and collectively, to help assess benefits and effectiveness in the treatment of headaches, especially tension headaches.

Conclusion

This patient with a persistent headache improved under a brief course of chiropractic care using CMT and adjunct therapies.

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