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CLINICAL EVIDENCE

Sacro-Occipital Technique (SOT) and Cranial Treatment for Hemicrania Continua: A case report

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Narrative: A 55-year-old female patient presented to my office for treatment of HC of four years' duration, requiring daily indomethacin use to control her severe headaches.

The patient was treated using sacro-occipital technique (SOT) protocols and cranial/TMJ therapies which I describe. At the three-month mark in care (six office visits), the patient reported that she had not experienced a headache in three weeks and was no longer taking indomethacin.

Quantitative outcomes measures confirmed her subjective report. The literature indicates that Chiropractic care for headaches carries low risk and may provide benefit.

At one- and two-year follow-up evaluations, this patient remained free of headaches.

Indexing Terms: Chiropractic; Sacro-Occipital Technique (SOT); Cranial Technique; Hemicrania Continua.

Introduction

Hemicrania continua (HC) is an indomethacin-responsive primary headache disorder (1) that is currently, though somewhat controversially, classified under the category of trigeminal autonomic cephalalgias. (2, 3) In recent years, HC has become a well-recognised primary headache disorder known for its chronicity and the resulting disability experienced by a subset of patients. The core clinical features have been well described: unilateral, side-locked headaches that are continuous (although interrupted by frequent severe exacerbations), associated with autonomic symptoms, and responsive to indomethacin. (4)

'... The patient reported progressive improvement following each office visit, experienced resolution of symptoms, discontinued indomethacin, and remained headache-free for over two years. ...'

Recent neuro-imaging research has provided new insights into the underlying pathways involved in the disorder, particularly activation of the contralateral posterior hypothalamus and the ipsilateral dorsal rostral pons. (4) Despite its well-known response to indomethacin, many patients still

experience significant delays in appropriate diagnosis and treatment. (5) Prakash and Patel (6) estimated the mean delay in diagnosis of HC to be 8.0 ± 7.2 years and noted that HC is not rare. They reported more than 1,000 cases in the literature and observed that HC represents approximately 1.7% of total headache patients attending headache or neurology clinics. (6) Ultimately, there remains a need for additional treatment options given the morbidity associated with long-term indomethacin use. (7, 8)

The patient

A 55-year-old female patient presented to my office for treatment of HC of four years' duration, requiring daily indomethacin use to control her severe headaches. She sought treatment after beginning to experience secondary adverse effects from chronic indomethacin use and expressed concern because no other therapies had successfully controlled her pain or associated disability. She reported that her pain began on the right side of her neck and traveled upward toward her right eye, accompanied by a sharp, stabbing sensation.

Intervention

The patient was treated using sacro-occipital technique (SOT) protocols and cranial/TMJ therapies. These interventions included treatment for pelvic torsion associated with sacroiliac joint hypermobility syndrome (Category II), (9) cervical 'stairstep' adjusting, (10) cranial sutural procedures (steps one through four) addressing the cervicocranial myofascia and craniofacial sutures, and TMJ procedures with rehabilitative exercises. (11)

Results

At the three-month mark in care (six office visits), the patient reported that she had not experienced a headache in three weeks and was no longer taking indomethacin. Quadruple Visual Analogue Scale (QVAS) (12) and Headache Disability Index (13) scores demonstrated significant improvement between the initial office visit and the six-month follow-up. At one- and two-year follow-up visits, her headaches had not returned.

Discussion

Bryans et al (14) discussed evidence-based guidelines for the Chiropractic treatment of headaches. The authors noted '*For migraine, spinal manipulation and multimodal, multidisciplinary interventions including massage are recommended for management of patients with episodic or chronic migraine*'. (14) They further stated '*For cervicogenic headache, spinal manipulation is recommended. Adverse events were not addressed in most clinical trials; when they were reported, they were none or minor*'. (14) Their guidelines concluded that '*evidence suggests that chiropractic care, including spinal manipulation, improves migraine and cervicogenic headaches*'. (14)

A randomised controlled study (n = 12) by Chicabi et al (15) found that headache frequency improved at all time points in both the Chiropractic spinal manipulative therapy group and the

placebo group. Headache index improved at all time points in the Chiropractic spinal manipulative therapy group, while improvement in the placebo group was observed at six- and twelve-month follow-up. The control group remained unchanged throughout the study period. Adverse events were few, mild, and transient. (15) Both the Bryans (14) and Chicabi (15) studies indicate that Chiropractic care for headaches carries low risk and may provide benefit.

Several theories have been proposed to explain how pelvic imbalance might influence cervicocranial relationships. One compelling theory involves coupling mechanisms at the superior and inferior aspects of the spine associated with visual and vestibular reflex control. (16, 17) Reduction of pelvic torsion and stabilisation of the sacroiliac joint (SOT Category II) have been associated with improvements in lumbar range of motion, (18) cervical spine extensor isometric strength, (19) and temporomandibular joint disorders. (20, 21) Conversely, improvement of lumbosacral pain through management of temporomandibular joint disorders has also been discussed in the literature. (22)

An interesting case study by Hochman (23) described a 32-year-old male patient with prior coccygeal and cranial trauma and headaches of seven years' duration. The patient had previously been diagnosed by allopathic physicians with migraine and trigeminal neuralgia and had undergone pharmaceutical and physical treatments, including Chiropractic care, without success. After adjustment of the coccyx and sphenoid bones using SOT cranial procedures, the patient experienced resolution of his headaches. (23) Other studies have reported successful management of headaches or migraines utilising cranial interventions (24, 25, 26) and/or combined cranial/TMJ approaches. (27)

As with any case study, it is difficult to extrapolate findings to the broader population due to the absence of a control group, lack of comparable subjects, and the inability to rule out placebo effects, ideomotor responses, or regression to the mean. However, the temporal relationship between the patient's four-year dependence on indomethacin for headache control and her subsequent ability to remain medication-free and headache-free after six office visits over a three-month period is noteworthy. At one- and two-year follow-up evaluations, she remained free of headaches.

Conclusion

This case report describes a patient diagnosed with HC who was unresponsive to interventions other than indomethacin, which over time resulted in adverse side effects. She sought care at this office as a last resort while struggling with both HC and medication-related complications.

The patient reported progressive improvement following each office visit, experienced resolution of symptoms, discontinued indomethacin, and remained headache-free for over two years. Further research is warranted to determine whether a subset of patients with HC may respond favourably to SOT and cranial therapeutic interventions.

Evidence context

This descriptive study is an observational design and is limited as an n of 1 report, lacking controls. The effect of potential confounding factors, including comorbidities, cannot be excluded. We recognise that subluxation identification and correction is the art of the individual Chiropractor.

The findings could support the clinically relevant hypothesis that the identification and correction of cranial dysfunction within the SOT protocols is a modifiable contributor to the effective management of the clinical presentation of Hemicrania Continua.

This report is eligible for inclusion as 'expertise' bringing clinical insights into the JBI FAME evidential ring (28) to inform evidence-based healthcare in general and the science of Chiropractic in particular.

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