

Improvement in Hemiplegic Migraines, Drop Seizures, Sleep, and Quality of Life in a 23-year-old female undergoing concentrated Chiropractic care: A case report

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Background: A 23-year-old female, novice to chiropractic care, presented for care with primary concerns relating to hemiplegic migraines, drop seizures, extreme fatigue, pilonidal cyst, leg and back spasms, poor sleep, and deteriorating mental health and cognitive function. At the time of her presentation, the young female could no longer drive, work, or live unassisted.

Intervention: The patient presented for an initial week of concentrated chiropractic care, which was then repeated five times over five years. During this time, she underwent 55-65 chiropractic adjustments per five-day course of concentrated chiropractic care. Additional care instructions included dietary advice, including the limitation of inflammatory foods, neurological exercises, customised nutritional-support detoxification, and spinal stretches.

Outcomes: Gradual but significant improvements were noted at each week of care, resulting in the patient seeing a complete resolution of her presenting complaints and a significant improvement in her quality of life, including being able to return to normal health, regain her working life, and engage in other normal activities of daily living.

Conclusion: The impact chiropractic care has had on this patient cannot be understated. Given that no short of eleven other health practitioners had been unable to resolve her comorbid presentations, caring for her whole nervous system using concentrated chiropractic care that delivers many adjustments in a short amount of time, thus theoretically increasing the neuroplastic effect seen over a short amount of time, may have been the mechanism behind life-changing care. This presents a rationale for further investigation into concentrated chiropractic care and Averio Functional Neurological Technique.

Indexing Terms: vertebral spinal subluxation; Chiropractic; Chiropractic adjustment; Quality of Life; hemiplegic migraine.

Introduction

Over a billion individuals are affected by migraines each year globally. (1) Despite being one of the most common neurologic disorders with a high level of comorbidity, there remains no cure and a limited understanding of the development and progression of this condition. An uncommon subtype of migraine is hemiplegic migraine, characterised by motor weakness on one

... gentle and specific periods of concentrated Chiropractic care can be the key to recovery for patients with multiple complex clinical issues ...'

side of the body and other sensory disruptions. Symptoms can develop rapidly during an episode and the one-sided muscle weakness can have the appearance of a stroke or other neurologic conditions, making it difficult to diagnose in some cases. Factors like acute stress, impaired sleep, emotional or physical exertion, and head trauma can all precipitate episodes. (2)



It naturally follows that these neurologic events may represent negative neuroplastic changes affecting the way the brain functions both in the short term and the long term, in addition to significant negative quality of life changes.

Current management options include NSAIDs and antiemetics to offset acute symptoms and a list of prophylactic medications aimed at preventing the onset of an episode, with varying efficacy. Chiropractic research has started to build an evidence base of case report data in the area of effective migraine management, with more than 10 case reports being published since 2017. As there are no randomised controlled trials in patients with hemiplegic migraine, medical and pharmaceutical treatment options remain limited. (3) Similarly, with no large-scale studies completed within chiropractic research, the potential efficacy of alternative and conservative approaches also remain undetermined.

This case report details the successful management of a young adult with hemiplegic migraines with chiropractic care, adding to the emerging evidence in this area of research. While migraines lead the list of presenting symptoms, seizure activity and sleep also factor into the complex medical history of the patient under care.

With sleep playing a vital role in neuro-plastic activity, delta and theta wave activity in frontal cortical brain areas, and manifesting in electrophysiological expressions in people without seizure disorders (4), the importance of restoring optimal neurological function, reducing distortions throughout the nervous system, and allowing the body to function and self-regulate at its best cannot be understated in this case.

Case details

A 23-year-old female, novice to chiropractic care, presented to a chiropractic clinic in July 2019 with a diagnosis of hemiplegic migraines, drop seizures, extreme fatigue, pilonidal cyst (buttock), and leg and back spasms with daily leg fasciculations. Prior to her presentation, the patient was a college athlete and was trained as an elementary teacher. However, she was not working due to these worsening health concerns and her extreme fatigue and brain fog.

The patient was no longer driving and could not live on her own. Before her first week-long program of concentrated chiropractic care, the patient reported at least one episode a week where she would collapse, with weakness and paralysis lasting approximately 2 hours. She reported experiencing an aura effect, tingling in the neck, disorientation, and right leg lock (whereby she was unable to bend at the knee). The patient required one to two days to recover from the episode.

In addition to the significant primary complaints that were severely impacting her quality of life and career, she also listed secondary complaints leading to daily life dysfunction.

The patient noted that it took her a long time to sleep, as well as growing depression and anxiety concerning her health concerns. The patient reported that she had irregular menstrual cycles pre-dating the development of her hemiplegic migraine episodes.

Medical history

The patient reported being a college athlete (runner) and a student teacher. The onset of symptomatology started in October 2017, during what the patient stated as a high-stress moment between college classes and intense training sessions for competitive cross-country running. The

initial symptomatology was a buckling of the legs that would result in a fall that she could usually get back up from but would continue to fall if she did not rest. This progressed into a bigger falling episode where the patient would report depression and mood swings hours earlier or even a day before the attack.

The patient reported that her legs would stop working, and she would collapse on the floor, unable to get up. She would need help being lifted to a couch or bed and be unable to move for several hours, experiencing disorientated full-body weakness and paralysis. The patient reported there were usually intense fasciculations and spasms in her legs and back during this time. These big episodes, which were followed by falls, impacted the patient's overall health, causing increasing brain fog, memory loss, full-body weakness, depression, anxiety, difficulty talking, and an inability to make decisions.

From the time of diagnosis in October 2017, the patient started seeking help first from her athletic training, paramedics, general family medicine, and emergency room, where underwent MRIs and a battery of cardiac tests that resulted in a cardiologist referral. At this point, she noticed severe shortness of breath and a racing heart rate. The patient was then referred to a physician assistant to a neurological who performed an EMG, to a naturopath for blood labs, to a generalised surgeon, to an internal medicine specialist, and then to a secondary neurologist specialist who observed a major falling episode and diagnosed the patient with hemiplegic migraine (this diagnosis occurred in May 2019).

There were no less than eleven referrals within mainstream medicine over two years while this patient continued to degrade and get worse.

Prior to these presentations, the patient had experienced a history of minor motor vehicle accidents, removal of tonsils at 18 months, and wisdom teeth removal. She also reports a history of motion sickness since she was a child.

Clinical findings

At the time of her presentation to our Chiropractic clinic, she underwent a thorough history and examination, the latter of which included computer-analysed radiology, intracellular micronutrient panels, functional neurological tests in addition to the ordinary battery of chiropractic examinations.

Radiological findings revealed abnormalities in the cervical and lumbar spine. An Intracellular Micronutrient Panel revealed serum deficiencies in Vitamins A, D, 25-OH, Inositol, Citrulline, and cellular deficiencies in zinc and copper as well as high AA, Archadonic Acid, and omega 6's, and low omega 3 fatty acids. A Bilateral Blind Spot Test: revealed severe abnormalities bilaterally. The patient's Cognitive Assessment (SAGE) revealed impaired cognitive function. The patient's Spinal EMG, heart sound tests, and King Devick's brain tests were all abnormal.

It was noted that the patient had neurologic and cerebral dysfunction in addition to the diagnosis of hemiplegic migraines. Subluxations were found at every level of the cervical and lumbar spine. A loss of cervical curve and cervical ligament instability were noted at C2-C3 in flexion and extension and C4-C5 in extension.

Management

Measures

Initial testing (2019) included cervical and lumbar radiographs computer analysed with *PostureRay* software, bilateral blind spot testing, King Devick's brain testing, systemic omega 3:6 blood lab, functional cognitive assessment (SAGE), body composition, spinal EMG and a functional heart sound test to evaluate stress.

Later testing included intracellular micronutrient panels, heavy metal, and environmental toxicity testing. The patient also received pre- and post-testing following each of the five weeklong programs to examine functional neurological, brain, vitals, and radiographic changes.

Changes were measured via pre and post-objective testing, radiographic imaging, photographic imaging (via the cyst), and patient-reported changes in symptomatology. In this case, the patient did not return to any mainstream medical advice or care after her first concentrated Chiropractic weeklong program. The patient did start working with a Chiropractor in her area and both she and her husband are consistent Chiropractic patients outside of the *Averio Health Institute* framework.

Technique and protocol

Over five years, the patient was seen for five weeks of concentrated chiropractic care at Averio Health Institute. Each week-long program contained 55-65 low-force chiropractic adjustments using the *Averio Functional Neurological Technique* (Averio FNT) * with a sustained contact hold to a specific area of the spine, cranial, or organ reflex. No manual adjusting or manipulation was done in this case due to the patient's overall weakness and fragility.

Additional care recommendations included a whole-food plant-based diet, limited intake of inflammatory foods, neurological exercises and spinal stretches and a whole-food supplementation protocol to address nutritional imbalances and deficiencies.

The patient received five concentrated chiropractic care week-long programs in October 2019, July 2020, July 2021, August 2022, and June 2023. Care was initially aimed at reversing the hemiplegic migraines as quickly as possible, as the patient self-reported that she was getting weaker and more depressed following each migraine. During her first care week, she needed assistance to open doors, walk, and use the restroom.

Outcomes

Prior to *Averio Health Institute*, the patient experienced a minimum of one episode a week with consistent aches in her legs and lower back, extreme brain fog, and severe depression, she described feeling as if her *'life would be cut short due to an unrecognisable disease'*. She had been labeled permanently disabled by the state of Washington and had been told by multiple medical providers that any potential for a normal life was not going to be possible in her case.

Following her first week-long program in October 2019, the patient reported that her drop seizures had decreased from once a week to approximately one per month. The patient reported that she was typically experiencing drop seizures around her period. The patient also reported that her drop seizures had also decreased in severity, no longer requiring days to recover but merely hours.

Following July 2020, the patient's falls had decreased to approximately one every six months, and she was strong enough to start working part-time and driving herself again. The last reported episode of hemiplegic migraine following a drop seizure was in January 2021.

Following July 2021: The patient reported that she had no episodes of seizure or migraine activity. The patient reported still having irregular periods, a large, uncomfortable pilonidal cyst on her buttocks (approximately the size of a baseball), and frequent upper respiratory infections.

The patient pursued a surgical consult on her pilonidal cyst, and it was determined to be too unsafe to consider removing with surgery due to the placement of the cyst in the gluteal muscle and the patient's slight body size. At this time, a recommendation for heavy metal and

* Averio Functional Neurological Technique: this low-force sustained adjustment uses friction-based objective testing to detect abnormal neurological interference

environmental toxicity testing through provoked urinalysis was made. Test results showed that the patient had severe toxicity to BPA (a neuro-hormonal disrupter), as well as 4-Nonphenal, NAP, and Glyphosate.

The patient's BPA levels were of particular concern as her test results showed a toxicity of BPA over 15,000% over the reported safety limit. BPA is a well-researched neuro-toxin and endocrine disruptor that is linked to cancer, abnormal chronic inflammation, neurological disruption, hormonal imbalance, early onset menopause, infertility, chemotherapy resistance, and many other pathological and physiological issues. (1 - 8)

The patient was started on a daily, at-home, customised nutritional plan to support metabolic pathways damaged by these toxins and help her body remove these stored toxins as safely and effectively as possible. Within 90 days of starting specific nutrition-assisted detoxification, the patient reported that her pilonidal cyst was gone. It took three specific, customised nutritional protocols over two years in combination with regular chiropractic and lifestyle modifications to lower the patient's BPA from severe toxicity to moderate.

Following August 2022: the patient reported that she had no upper respiratory infections, and her periods became regular for the first time in ten years. The patient began to run again and exercise lightly while working full-time for the school district as a special education teacher.

Following June 2023: the patient was now reporting normal health. She was pursuing finishing her detoxification plan, could run as much as she wanted and was now able to return to work full-time. She has since married and is planning to start a family as soon as there are no more abnormal levels of BPA in her system. She reports no migraine or seizure activity, no pain or aches, no fatigue or brain fog, no depression or anxiety. She falls asleep easily and sleeps without issue. The patient reports no longer having motion sickness.

The patient also reported that she felt she got her life back, and that Chiropractic saved her life and helped her regenerate her body to normal when she believed it was no longer possible. Chiropractic care gave her hope, a path to follow, and results with every health problem she had.

Discussion

This case details the successful management of a patient with hemiplegic migraines, drop seizures, depression, and sleep disturbances through a series of concentrated chiropractic care weeklong programs. The patient reported a reverse of all diagnoses and dysfunctions and was able to return to work and regular exercise outside of the mainstream medical model.

As with most case reports, the care journey of this patient was complex. The area of focus started in the patient's cervical spine, but over the five years, all areas of the spine were addressed over the five weeks of care with additional nutritional and toxicology assessments and recommendations. This case highlights a lack of understanding, education, and awareness of chiropractic outcomes within mainstream medicine and the need for greater advocacy, as a chiropractic referral at the beginning of this case would have saved the patient a lot of time, money, and suffering.

The significant changes in this case were achieved through; concentrated Chiropractic care, objective testing pre- and post-care, and creating the opportunity for continued maintenance care. It also showed how concentrated chiropractic care might elicit neuroplastic changes that allow for decreased symptomatology when it comes to neurologic conditions such as migraine and seizures. This, as with many cases, illustrates how objective testing must drive clinical necessity and take precedence over insurance, patient convenience, or doctor-perceived limitation.

Case reports have inherent limitations in the ability of the findings to be generalised beyond the individual patient in the case report. Additionally, this case report features multiple care modalities, incorporating therapies such as brainwave training, class 2 photobiomodulation,

active and passive motion therapies, hot and cold therapies, neurological exercises, whole-food supplements, whole-food detoxification, and education. This dilutes the attributable intervention that produced the reported findings.

Conclusion

Supported by previous case report findings in this clinical field, this case suggests an alternative path forward for those navigating the labyrinth of medical referrals, demonstrating the potential benefit of concentrated Chiropractic care for chronic and complex health concerns.

It should be noted that potentially, due to the financial and travel restrictions of the patient affecting their ability to attend sessions, similar findings may have been accomplished within 14-18 months if the patient was able to comply with the original care frequency.

While the evidence base for chiropractic care and neuroplastic effects is increasing, and increased neuroplasticity in the prefrontal cortex has been shown in research, we have not yet seen studies exploring the length of this effect. Nor have we seen the difference concentrated chiropractic care may elicit by delivering numerous adjustments to capitalise on this window of heightened neuroplastic activity. There are also limited large chiropractic studies looking at the impact of Chiropractic adjustment or concentrated Chiropractic care on tissue regeneration. Both would be beneficial to the profession and those who benefit from chiropractic care.

Such studies would be vital in forming the basis for advocacy and communications leading to further interdisciplinary cooperation for the sake of patients who need chiropractic assistance but are unaware of it.

Update September 2024

The patient successfully conceived in the spring of 2024 and is expected to have a healthy baby in early 2025. This is of particular importance as medical advice was that she was likely infertile following the various diagnoses from 2017-2019.

From Dr Kotlerman: People want to be well. If they need 400 adjustments to be well, be honest with them and allow them to get 400 adjustments.

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Declarations

This Case Report is a part of the [ASRF Case Report Project](#), a project designed to gather client studies from chiropractors and transform them into much-needed case reports, focused on the effects of chiropractic care on clinical presentations highly relevant to chiropractic, such as stress, immunity and adaptability.

This valuable project is made possible by the generous fundraising and contributions of ASRF supporters.

Patient consent was documented and is held by the lead Authors and the Journal.

All data with appropriate clinical commentary were provided by authors Kotlerman, Martin, and Carter.

ASRF definition of subluxation

'A vertebral subluxation is a diminished state of being, comprising a state of reduced coherence, altered biomechanical function, altered neurological function and altered adaptability.'

About the author

Dr Sarah Kotlerman, BS DC NTP, is the Clinical Director at [Averio Health Institute](#), a regenerative chiropractic institute specialising in concentrated care programs for patients with severe, chronic health issues. In the last few years, Averio Health Institute has collaborated with the Australian Spinal Research Foundation in the publication of ten case studies showing how concentrated chiropractic care has the potential to allow the body to regenerate tissues and reverse disease. Dr Kotlerman is passionate about reversing spinal abnormalities and central nervous system interference in patients, allowing their bodies to express health and life as designed. Dr Kotlerman is also a toxicity expert, having tested and reversed heavy metals, environmental chemicals, and mycotoxicity in thousands of patients.

Dr Kotlerman is a Washington State Chiropractic Association board member since 2020 and is currently participating with the Washington Chiropractic College team towards building the opportunity for a boutique chiropractic college in Washington state. Dr Kotlerman is married with one child. Outside of the office,

Dr Kotlerman is a published author with two books. Her clinical results book, *'Exceptional Health: You Can Have It!'* and her personal memoir, *'Seeing Magic'*. She has published ten international case studies in collaboration with the *Australian Spinal Research Foundation* and the *Asia-Pacific Chiropractic Journal*.

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