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ABCA Advanced Bio-Structural Correction Australasia

Improvement in cervicothoracic pain, mood, work capacity and quality of life in a post-surgical patient with a history of microdiscectomy and laminectomy: A case report

Rhys Hartmann, Ruth Postlethwaite and Clare McIvor

Background: A 32-year-old male barber with a 10-year history of chronic low back pain with left-sided radicular symptoms and cervicothoracic junction pain presented for Chiropractic care. He reported a history which included lumbar microdiscectomy, laminectomy, and multiple nerve root injections.

Intervention: Chiropractic care, according to the Advanced Biostructural Correction Protocol, was recommended twice weekly for twelve weeks, although the patient attended once weekly for the first three months.

Outcomes: The patient reported resolution of low back and cervicothoracic pain, reduced medication frequency and dose, and significant improvements in mood, work capacity, and family interactions. The patient was able to completely cease opioid use as a result of Chiropractic care.

Conclusion: This case describes improvement in chronic spinal pain, neurological findings, and patient-reported quality of life following chiropractic care in a patient with a history of lumbar spine surgery and long-term medication use. Further research is required to evaluate the potential role of chiropractic care in managing chronic post-surgical spinal pain and reducing medication reliance.

Indexing Terms: Chiropractic; Subluxation; Advanced Biostructural Correction Technique; ABC; Quality of Life; work capacity; microdiscectomy; post-surgery.

Introduction

Lumbar radiculopathy is a clinical condition characterised by pain, altered sensation, or motor weakness resulting from irritation or dysfunction of a spinal nerve root. Patients commonly present with radiating leg pain, often referred to as sciatica, alongside neurological findings such as diminished reflexes or reduced muscle strength. Disc herniation, degenerative spinal

> *... following care delivered as the ABC protocol the patient reported 'I used to rely on painkillers all the time to take the pain away, and mentally I felt that I was seventy years old despite being thirty-two. The treatment really change my life' ... '*

changes, and mechanical stress on spinal structures are among the most common contributing factors. For some individuals, symptoms persist for many years and can significantly affect occupational capacity, mobility, and overall quality of life.

Surgical procedures such as lumbar microdiscectomy and laminectomy are often used when conservative management fails or when neurological compromise becomes significant. While surgery may provide relief for some patients, a proportion continue to experience ongoing radicular symptoms or recurrent spinal pain following intervention. Persistent or recurrent symptoms after spinal surgery remain a recognised clinical challenge and may result in repeated procedures, spinal injections, or long-term pharmacological management including neuropathic medications and opioid analgesics.

Within models of subluxation-based Chiropractic, vertebral subluxation is understood as a functional disturbance that may influence neural integrity and the body's ability to coordinate and regulate physiological processes. The Australian Spinal Research Foundation defines the vertebral subluxation as '*a diminished state of being, comprising a state of reduced coherence, altered biomechanical function, altered neurological function and altered adaptability*'.

Within this understanding sits central nervous system function, and by extension, issues like pain, posture, mood, and ability to engage with our external environment. The central nervous system also plays a critical role in maintaining homeostasis, coordinating movement, and regulating tissue healing. When spinal biomechanics and neurological communication are compromised, adaptive capacity may also be affected. (Haavik & Murphy, 2012)

Chiropractic care directed at identifying and correcting vertebral subluxation seeks to restore more optimal neurological communication between the spine and the central nervous system. The objective is not only reduction of pain, but improvement in neurological function and adaptive capacity. By improving spinal function and reducing interference within the neuromusculoskeletal system, Chiropractic care aims to support the body's innate ability to self-regulate and respond to physical stressors.

While reports of Chiropractic care for back pain, including low back or cervicogenic pain as seen in this case study, are plentiful, here we shine a light on the mood-related issues, work capacity, and ability to interact with family and friends which may also be impacted.

Research examining Chiropractic care following spinal surgery remains limited, but emerging literature suggests that Chiropractic care may provide benefits for selected patients with persistent spinal pain or radicular symptoms. Case reports remain an important early step in documenting clinical outcomes and informing future research directions.

This report describes the presentation and management of a patient with chronic lumbar radiculopathy and cervicothoracic pain following previous lumbar spine surgery who underwent Chiropractic care using an Advanced BioStructural Correction protocol. Clinical findings, management strategies, and patient outcomes are described in the context of restoring spinal function and supporting neurological integrity.

Case details

A 32-year-old male barber presented with chronic low back pain and intermittent left-sided sciatic referral. Despite his young age, his spinal health and related pain had plagued him for approximately ten years and were aggravated by prolonged standing and bending or lifting activities. As a barber, the patient frequently stood for extended periods during work shifts that

could last up to ten hours. He was novice to Chiropractic at the time of his engagement with the clinic.

Upon presentation a thorough history and examination were undertaken. His initial examination identified twenty-two abnormal clinical findings.

The patient described pain radiating from the low back into the left gluteal region and occasionally along the posterior aspect of the left leg to the foot. These symptoms were accompanied by cervicothoracic junction pain radiating bilaterally across the upper trapezius toward the shoulders. The cervical symptoms occurred three to four days per week and were described as stabbing and aching in character. Occupational posture was reported as a primary aggravating factor.

The patient had undergone several medical interventions prior to seeking Chiropractic care. These included L5 nerve root injections in 2015 and 2021, L4 microdiscectomy in 2015, and a left L4 laminectomy in 2017. Despite these procedures, symptoms persisted.

Daily medication use included pregabalin (Lyrica) and tramadol to manage pain and neurological symptoms. The patient reported that chronic pain and medication use had negatively affected mood, patience, and interpersonal relationships both at work and at home.

Neurological testing demonstrated global myotomal weakness graded +4 throughout multiple muscle groups of the left lower limb, including the hamstrings, gluteal musculature, hip flexors, quadriceps, abductors, and tibialis anterior. Weakness was also present in the right quadriceps and tibialis anterior.

Upper limb testing demonstrated bilateral weakness of the opponens musculature graded +4. Deep tendon reflexes were reduced bilaterally at L4 (patellar) and S1 (Achilles), graded +1.

Range of motion testing revealed several limitations. Cervical lateral flexion was reduced by approximately 20% on the left and 30% on the right, with cervical extension reduced by 20%. Lumbar flexion was reduced by approximately 40%, while right lateral flexion, left rotation, and extension were each reduced by approximately 20%.

Outcome measures included subjective patient progress questionnaires completed at each examination, objective practitioner assessments using CERPIC examination cards, and postural photographs obtained at examination intervals.

Management

Chiropractic care was delivered using the Advanced BioStructural Correction protocol. Adjustments were applied anteriorly between C7 and L5 with associated meningeal releases. Additional adjustments were performed on the pelvis, anterior ribs, fibular heads, and feet.

The patient was also provided with at-home recommendations, including postural and ergonomic guidance and modifications for sitting, sleeping, and standing. This was also based on ABC recommendations. Additional recommendations included general aerobic activity such as walking, running, or swimming for at least thirty minutes daily.

Supportive measures included attendance at a postural education workshop and the use of an ABCA seat wedge for driving.

A care plan of twice-weekly visits for twelve weeks was recommended. Due to scheduling constraints, the patient attended once weekly for the first three months of care.

Outcomes

A re-examination was conducted approximately six and a half months after the commencement of care. This occurred following a three-month hiatus in treatment due to personal circumstances.

Despite the interruption in care and the reduced treatment frequency, examination findings demonstrated improvement. The number of abnormal clinical findings decreased from twenty-two to thirteen, representing an approximate reduction of40%. Improvement was observed in lower limb myotomal strength and lumbar range of motion.

Subjectively, the patient reported resolution of both low back and cervicothoracic pain, including the associated left leg referral. The patient also reported improvements in confidence, mood, and temperament, along with increased ability to function at work and participate more fully in family life.

Medication use had reduced to approximately one quarter of the previous dosage and was taken only two to three days per week rather than daily. Postural photographs demonstrated visible improvement in overall alignment over the course of care.

> The patient stated, '*I used to rely on painkillers all the time to take the pain away, and mentally I felt that I was seventy years old despite being thirty-two. The treatment really change my life. Every day I wake up and don't feel any pain. It's changed the way I live. I am more confident and I don't' need to rely on the drugs anymore. I wish I had done this sooner, before the surgery*'

Discussion

This case describes improvements in pain, neurological findings, spinal mobility, and patient-reported Quality of Life in an individual with a complex history of lumbar surgery and chronic radicular symptoms. In this case, while significant reduction in opioid use and increased ability to engage with life and employment matters greatly to the patient and will make a significant difference over his lifespan, it raises three issues that bear observation.

1. The first is the issue of care frequency and interruptions to care. The significant interruptions in care present a confounding issue. Other case report data, and indeed larger studies, have presented instances in which interruptions to care have resulted in a return of symptomatology (even if only slight). While this is to be expected, especially in the earlier stages of care if a person is unable to attend a clinic as regularly as recommended (whether because of schedule, distance or cost), it did not occur in this case.

   While the mechanisms underlying improvement cannot be determined from a single case, subluxation-based care may influence spinal biomechanics, neuromuscular control, and postural adaptation. With ABC's focus on Biostructural corrections within this paradigm, the reduction of mechanical stress and improvements in functional capacity come into sharper focus. It is therefore proposed that Biostructural corrections may

assist in adjustments holding for longer, allowing neurological and physiological adaptations to continue despite suboptimal care schedules.

2. The second issue is that of Chiropractic care post-surgery. While Chiropractic is often thought of as an intervention that should occur in the hopes of preventing surgery, it often occurs that patients seek our help following failed surgeries or suboptimal surgical outcomes. There are also numerous situations in which surgery cannot be avoided.

   This case report is one of several Chiropractic cases in which significant functional and pain-related improvements occurred post-surgery. With a high-prevalence of pain and disability related to back pain, this phenomenon deserves further investigation, especially where subluxation-based, Biostructural corrections have been deployed post-spinal surgery.

3. The third issue is that of decreasing opioid use as a direct result of Chiropractic care. Opioid overuse and related harm has been a topic of concern for some time now, with researchers and practitioners alike recognising the opioid 'epidemic'. (Robert, 2023) Less discussed is the research indicating that while opioids are commonly prescribed for chronic pain conditions including low back pain, long-term opioid use is a predictor of worse back-specific disability, physical function, fatigue, participation in social roles and pain interferences. (Schultz, 2022) The same study found that even short or intermediate opioid use cases indicated worsening of back-specific disability and physical function outcomes, thus drawing into question the utility of significant or long term opioid use.

Given these findings, and the broader body of evidence surrounding pain, disability, dependence and overuse issues surrounding opioid use for chronic pain and its contribution to the burden of disease, this case is significant in that the patient discontinued use of opioid and pharmacological interventions. This alone is a finding that warrants further scholarly inquiry.

Limitations

We acknowledge several limitations. The patient was unable to follow the recommended treatment frequency, and there was a three-month interruption in care before the re-examination. Additionally, case reports cannot establish causation and are limited in their ability to generalise findings to broader populations.

This descriptive study is an observational design, and limited to an 'n of 1' report, and lacking controls. However, the findings described support the clinically relevant hypothesis that the identification and correction of subluxation using ABC Protocols is a modifiable contributor to the effective management of chronic pain and disability post-surgery, and may impact mood, quality of life, and opioid use. This report is therefore eligible for inclusion as 'expertise' bringing clinical insights into the JBI FAME evidential ring (JBI Manual for Evidence Synthesis. 2024) to inform evidence-based healthcare in general, and the science of chiropractic in particular.

Conclusion

The application of ABC protocols for assessment and adjustment is associated with significant improvements in this patient's self-assessed Quality of Life. Given the interruptions to this patient's care while attaining significant improvements, it is reasonable to also undertake deeper inquiry into matters of frequency and duration of care.

Further research including larger observational studies and controlled trials must be designed to clarify the role of Chiropractic care in managing chronic spinal pain, particularly in patients with prior surgical history.

Ruth Postlethwaite
BBiomedSc
Writer, ASRF

Clare McIvor
BBus(Admin),
GD Comms(ProfWrit,Edit),
GD(Psych)(Cand)
Writer, ASRF

Rhys Hartmann
BChiroSc, BClinChir
Private practice of Chiropractic
Duncraig, Perth

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Abut the Chiropractor

Dr. Rhys Hartmann holds a Bachelor Clinical Chiropractic (BClinChiro), and Bachelor Chiropractic Science (BChiroSc)

He is a passionate Chiropractor who is committed to helping his patients achieve optimal health and wellness. He obtained his degrees from Murdoch University in 2020, where he developed a keen interest in Advanced Bio-Structural Correction.

Dr Hartmann has a strong interest in sports chiropractic and has treated a wide variety of athletes, from weekend warriors to professional athletes. He is particularly interested in helping his patients achieve peak performance through Chiropractic care, whether it's by reducing pain, improving range of motion, or increasing flexibility.