

Late Whiplash Syndrome - Response to Conservative Chiropractic Management: A Case Report

James J. Lehman, DC, DIANM¹

¹University of Bridgeport School of Chiropractic, Bridgeport, CT

Published: 2025

Journal of the International Academy of Neuromusculoskeletal Medicine

Volume 22, Issue 1

This is an Open Access article which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The article copyright belongs to the author and the International Academy of Neuromusculoskeletal Medicine and is available at: <https://ianmmedicine.org/> © 2025

ABSTRACT

Objective: This case report describes a patient presenting with Late Whiplash Syndrome and symptoms of chronic neck pain, dizziness, nausea, and vertigo, and her response to a conservative chiropractic intervention.

Clinical Features: A 62-year old female presented with a chief complaint of neck pain. The history of present illness indicated the onset of the neck pain was approximately 10 years prior to this visit. She described upper cervical spine pain on the left as a deep and dull ache with stiffness throughout the neck. High velocity low amplitude cervical manipulations had produced adverse reactions over the past five years. Past medical history revealed several motor vehicle accidents over the past 35 years. A fall as a young child preceded tinnitus that persists today. Since 2001, she has experienced daily vertigo, dizziness, and nausea.

Intervention and Outcome: Following evaluation, conservative chiropractic care was provided with the goal of reducing symptoms and improving cervical range of motion. Trigger point release was performed to ameliorate active trigger points in the upper trapezii and the left levator scapulae muscle. Gentle, cervical long axis distraction was performed to reduce cervical pain, muscle hypertonicity, and joint dysfunction. Treatment reduced the neck pain, while the vertigo, dizziness, and nausea were eliminated. Six weeks following the treatment, the patient still denied neck pain, vertigo, dizziness, or nausea.

Conclusion: This case of a posttraumatic cervical sprain (whiplash injury) with resultant chronic pain syndrome as well as dizziness, nausea, and vertigo responded favorably to gentle conservative chiropractic care

INTRODUCTION

Crow first identified Whiplash Injury in 1928¹ and the Quebec Task Force coined the term Whiplash Associated Disorder (WAD) in 1995², whiplashed patients commonly seek chiropractic treatments for relief of neck pain and headaches.³ Whiplash associated disorders are comprised of a range of symptoms. Of those related to the spine, neck complaints and headaches are the most significant.⁴ Patients seeking care following whiplash injuries are prone to become chronic pain patients. Although patients may present for care during the acute stage of whiplash injury, 50% of them continue to experience pain for years.⁵

The whiplash-type of injury, as described by Dr. Ruth Jackson, is responsible for the greatest percentage of cervical nerve root irritations. This type of injury is caused by a sudden forceful movement of the neck in any direction with a sudden recoil in the opposite direction. Such injuries cause typical sprains of varying degrees with subluxation of the articular processes and stretching, tearing or avulsion of, and varying amounts of hemorrhage into the ligamentous and capsular structures. Automobile accidents are responsible for the greatest number of such injuries.⁶ According to Poorbaugh et al, the term "whiplash" represents the multiple factors associated with the event, injury, and clinical syndrome that are the end-result of a sudden acceleration-deceleration trauma to the head and neck. Whiplashed patients may develop Late Whiplash Syndrome⁷ and experience not only neck pain and headaches, but also nausea, dizziness, and vertigo.⁸

CASE PRESENTATION

A 62-year old female presented with a chief complaint of neck pain seeking an evaluation of her cervical spine.

Subjective Findings:

The patient reported neck pain with stiffness of approximately 10 years duration. She was involved in several car accidents in her 20s, but never sought evaluation for whiplash. While she reported intermittent neck pain and headaches for most of her adult life, she did note that the headaches diminished greatly after menopause.

She also reported positional vertigo brought on by head rotation or by lying supine. The frequency of vertigo had been increasing over the past four years from occasional (once or twice a month) to occurring daily. She described the vertigo as the room spinning for several seconds followed by a lingering queasiness.

She described upper cervical spine pain as a left sided deep and dull ache with stiffness throughout the neck. She pointed to the C2 area on the left side of the cervical spine. She denied any problems with loss of balance, weakness, or numbness in the upper or lower extremities.

Past History (Relevant):

The patient had been treated by four different chiropractors over the past 40 years. She responded well to chiropractic care until five years ago. Since that time high velocity low amplitude (HVLA) cervical manipulations began to produce adverse reactions, described as shooting, electrical shocks down both arms. Hence, she was opposed to cervical manipulation (HVLA).

Past medical history revealed several motor vehicle accidents since 1990. As a young child she fell and hit her head on a hard container. Following the fall she experienced tinnitus that persists today. Since 2001, she has experienced daily vertigo, dizziness, and nausea. She reported no history of treatment for any significant medical conditions, as well as no use of medication.

Objective Findings:

The patient stood 65 inches in height and weighed 135 pounds. She was alert, cooperative, polite, and an excellent historian. Her vital signs were reasonable with measurements of blood pressure at 122/78, pulse rate of 80 per minute, oral temperature of 98.4 degrees F, and a respiration rate of 12 per minute.

Posture and gait evaluation revealed ambulation without any apparent limping or loss of balance. Forward head posture was measured at 2 inches with some rounding of the shoulders. No signs of scoliosis or pelvic obliquity were observed.

Static palpation elicited pain at C2 on the left, at C5-6 over the ligamentum nuchae, and bilaterally with hypertonicity in the paravertebral muscles. Posterior joint dysfunction was revealed at C2-3 and C5-6 with pain and reduced range of motion. Taut bands with painful nodules were revealed in the upper trapezii bilaterally and in the left levator scapulae muscle. There was localized and referred pain to the head with palpation of the left levator scapulae muscle, which reproduced the deep and dull neck pain.

Active cervical range of motion demonstrated some reduction in all six cardinal ranges. Right lateral flexion, right rotation, and extension were reduced more than other movements with reproduction of neck pain, dizziness, and vertigo.

Gentle cervical compression was performed with the patient seated and the cervical spine in a neutral position. The gentle compression produced pain in the upper cervical spine on the left at the level of C2. Cervical distraction produced relief of the upper cervical spine pain. Grip strength was strong bilaterally. Sensation of light touch on the face and hands was intact bilaterally. Hoffman's sign was absent for pathological reflex. Gaze stability testing reproduced the symptoms of nausea, dizziness, and vertigo. H-testing of the oculomotor nerves produced nystagmus.

Assessment:

1. Late Whiplash Syndrome (Post-traumatic chronic pain syndrome).
2. Suspected sensorimotor dysfunction as a result of the cervical sprains and cervical joint dysfunction.
3. Myofascial pain syndrome.
4. Suspected degenerative posterior and anterior joint disease of the cervical spine.

Plan:

The patient received soft tissue treatment with pressure release to deactivate trigger points in the upper trapezii bilaterally and in the left levator scapulae. Gentle cervical long axis distraction was applied 3 times, each with a 30 second hold, to reduce pain and cervical joint dysfunction.

Outcome:

The patient responded very favorably with reduced neck pain and immediate relief of the dizziness, nausea, and vertigo. She was advised to follow up in 6 weeks, or sooner if the symptoms returned. The patient returned for follow up 6 weeks later and stated that she no longer experienced neck pain, nausea, dizziness, or vertigo. She commented that she still experienced occasional neck stiffness.

DISCUSSION

Whiplash injury is “an acceleration-deceleration mechanism of energy transferred to the neck,” usually resulting from rear-end or side-impact motor vehicle collision.² Approximately 50% of whiplash injuries with only mild cervical strains do not require chiropractic intervention and heal without medical care within 2-3 weeks.⁹ Historically, the whiplash injury requiring chiropractic interventions has involved acute strain and sprain of the cervical spine caused by a rear-end motor vehicle incident with resultant neck pain and headaches.

Whiplash associated disorders are the most common non-hospitalized injury resulting from a motor vehicle crash.⁵ Ritchie et al concluded that a patient-centered care approach is needed to try and identify patient understanding of pain and recovery, as well as expectations of recovery, symptoms, and therapy.⁵ In another study, Ritchie et al found that recovery following a whiplash injury is varied: approximately 50% of individuals fully recover, 25% develop persistent moderate/severe pain and disability, and 25% experience milder levels of disability.¹⁰

Late Whiplash Syndrome has been described by Poorbaugh et al as a disorder that is characterized by a constellation of clinical profiles including neck pain and stiffness, persistent headache, dizziness, upper limb paresthesia, and psychological emotional sequelae that persist more than 6 months after a whiplash injury. In this same study it is stated that cervicogenic vertigo has been recognized in the clinical and scientific domain as a pathological condition that may result because of whiplash.⁷

CONCLUSION

Patients suffering with posttraumatic chronic cervical pain with vertigo may be experiencing Late Whiplash Syndrome. Based upon the response of this patient with chronic neck pain, nausea, dizziness, and vertigo, it is reasonable to consider that chiropractic interventions may be indicated for the treatment of Late Whiplash Syndrome. The chiropractic profession should strive to offer patient-centered treatment, and modify chiropractic services in order to meet individual patient needs.

LIMITATIONS

This report describes a single patient's clinical presentation, diagnostic evaluation, and management of Late Whiplash Syndrome. Generalization of the content of this report to any other individual with a similar clinical presentation is to be avoided.

CONSENT

Written informed consent was obtained from the patient for publication of this case report. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

COMPETING INTERESTS

The author declares no competing interests.

REFERENCES

1. Barnsley L, Lord S, Bogduk N. Whiplash injury. *Pain*. 1994;58:283–307.
2. Spitzer WO, Skovron ML, Salmi LR, et al. Scientific monograph of the Quebec Task Force on Whiplash-Associated Disorders: redefining “whiplash” and its management. *Spine*. 1995;20:1S–73S.
3. Frigard LT. The Whiplash Injury 847.0. Richmond Hall Inc. January 1, 1970.
4. van Suijlekom H, Mekhail N, Patel N, Van Zundert J, van Kleef M, Patijn J. 7. Whiplash-associated disorders. *Pain Pract*. 2010 Mar-Apr;10(2):131-6. doi: 10.1111/j.1533-2500.2009.00356.x. PMID: 20415730.
5. Ritchie C, Ehrlich C, Sterling M. Living with ongoing whiplash associated disorders: a qualitative study of individual perceptions and experiences. *BMC Musculoskelet Disord*. 2017;18(1):531. Published 2017 Dec 15. doi:10.1186/s12891-017-1882-9
6. Jackson R. The classic: the cervical syndrome. 1949. *Clin Orthop Relat Res*. 2010;468(7):1739-1745. doi:10.1007/s11999-010-1278-8
7. Poorbaugh K, Brismée JM, Phelps V, Sizer PS Jr. Late whiplash syndrome: a clinical science approach to evidence-based diagnosis and management. *Pain Pract*. 2008;8(1):65-89. doi:10.1111/j.1533-2500.2007.00168.x

8. Endo K, Ichimaru K, Komagata M, Yamamoto K. Cervical vertigo and dizziness after whiplash injury. *Eur Spine J*. 2006 Jun;15(6):886-90. doi: 10.1007/s00586-005-0970-y. Epub 2006 Jan 24. PMID: 16432749; PMCID: PMC3489433.
9. Ferrari R, Schrader H. The late whiplash syndrome: a biopsychosocial approach. *J Neurol Neurosurg Psychiatry*. 2001;70(6):722-726. doi:10.1136/jnnp.70.6.722
10. Ritchie C, Hendrikz J, Kenardy J, Sterling M. Derivation of a clinical prediction rule to identify both chronic moderate/severe disability and full recovery following whiplash injury. *Pain*. 2013 Oct;154(10):2198-2206.