Conservative Care of Pediatric Acquired Torticollis: A Report of 2 Cases

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ABSTRACT

Objective: The purpose of this case report is to describe the conservative management of 2 cases of acquired torticollis in children under 3 years of age.

Clinical Features: Both patients awoke with painful, stiff, twisted necks the day after play in a bouncy house. Range of motion was limited, and hypertonic muscles were palpated. Their neurologic and physical evaluation was consistent with a diagnosis of acquired torticollis of musculoskeletal origin.

Intervention and Outcomes: Both children were treated with chiropractic care that consisted of light myofascial release, use of an Activator instrument, and home stretching. Patients improved in pain and range of motion immediately posttreatment and returned to normal ranges in 1 or 2 visits.

Conclusion: Chiropractic care provided relief for these 2 young patients with acquired torticollis. (J Chiropr Med 2017;16:252-256)

Key Indexing Terms: Chiropractic; Torticollis; Manipulation; Pediatric

INTRODUCTION

Acquired torticollis is a painful condition that may be seen in chiropractic as well as in family and pediatric medical settings. Acquired torticollis differs from congenital torticollis in that the onset is after the first 2 months of life. It appears to be more common in the fall and winter months, with 60% to 70% of cases occurring during those 2 seasons.^{1,2} Acquired torticollis is also common among adults, but is usually benign in this population, whereas it has a higher likelihood of representing serious underlying pathology in a pediatric population.^{3,4}

Acquired torticollis has been associated with serious pathologies, including brain and spinal cord tumors,^{5,6} hemorrhage,⁷ meningitis,⁸ and encephalitis.⁹ Often the torticollis posture and pain on motion are the only presenting symptoms. Nonmuscular causes of torticollis in children may account for 18% of all torticollis admissions in a hospital setting.^{3,10} Because torticollis may be a red flag for underlying

serious and perhaps nonmusculoskeletal pathology, diagnosis and appropriate treatment should not be delayed.^{11,12}

History and physical examination can identify most pathologic etiologies, obviating the need for special imaging.^{1,13} Regrettably, after significant pathology has been ruled out, the acquired torticollis of muscular origin is often left unaddressed, consigning the patient to a prolonged painful and limiting disorder, even though it eventually resolves.

There is a dearth of case reports on successful outcomes of manual therapy treatment of torticollis in the pediatric literature. One case describes successful resolution of an acquired torticollis that resulted in eye fixation.¹⁴ Another case discusses congenital torticollis rather than acquired torticollis.¹⁵ A recent large clinical trial¹⁶ that employed physiotherapy for pediatric torticollis included some similar treatment protocols and reported congruent findings, but included only patients with congenital torticollis and patients younger (2-5 months of age) than the 2 cases herein reported. This trial reported 90% successful outcomes in fewer than 10 visits, with rapid resolution of symptoms once the proper diagnosis is made and treatment initiated.

The few publications in the manual therapy literature on the diagnosis and treatment of acquired pediatric torticollis mostly report adverse events and missed diagnoses.^{4-13,17-21} The only case series in the literature featuring chiropractic management concerns missed diagnoses of underlying pathologies.²² One case report of a child with congenital torticollis details how several providers missed diagnosing holocord astrocytoma resulting in quadriplegia.¹⁷ There

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have been reviews on the safety of chiropractic manipulation for pediatric patients that concluded that there is insufficient evidence to establish causation, but that adverse events are rare and may not exceed those of other interventions.²³⁻²⁶ The literature is not reflective of the prevalence of the benign forms of acquired torticollis that approach 80% of cases, nor the successful outcomes of those in private practice.³ A consensus guideline on best practices for chiropractic care for children was published after the submission of the 2 cases herein reported and provides similar lines of reasoning on safety and treatment methods described in this report.²⁷

The purpose of this case report is to describe the conservative management of two cases of musculoskeletal acquired torticollis in children under 3 years of age.

CASE REPORTS

Case 1

A 26-month-old girl, crying on waking one morning, complained to her parents that her neck was hurting. The parents brought her to a chiropractic office and relayed her history and behavior to the doctor. The pain had begun after a day of playing in a bouncy house. She had no known previous accidents or injuries during play and had not complained of any pain the day prior. The pain was exacerbated when turning to the right. The parents noted that during the next several days, she flinched with attempted neck movement and rotated her entire body in lieu of her head and neck when she wanted to look to the right. Although these symptoms slowly improved during the 3 days after the initial onset, on day 4 the patient woke complaining of increased neck pain and manifested reduced range of motion (ROM) and limited cervical spine active global ROM again. At this point, the worsening symptoms caused her parents to seek chiropractic care for their child.

On presentation, the child was experiencing no nausea or vomiting, nor was there a history of fever. There had been no prior surgeries or medications taken, nor any trouble sleeping, playing, or communicating.

On physical exam, the patient was very physically active and energetic, playing and talking with no distress. She had a resting head position fixated in lateral flexion to the right with rotation to the left. Her active global cervical ROM was restricted in right rotation and left lateral flexion, with pain at end range for those motions (Table 1). The cranial nerves were intact; the pupils were equally round and reactive to light; the extraocular muscles

were intact; facial sensation, appearance, and movement were symmetric; and there was no facial droop. Hearing was intact to conversation and her palate upgoing with tongue midline. Myotomes, dermatomes, deep tendon reflexes, and gait were all full and normal. Careful testing of the patient's passive ROM was well tolerated and resulted in increased movement in all ranges with reduction in pain.

Orthopedic testing revealed no pain with distraction. The neck pain was reproduced with maximum cervical compression and the shoulder depressor test, both of which provoked cervical spine pain on the right when performed bilaterally. The levator scapula and suboccipital muscles on the right were hypertonic and manifested trigger points with referral patterns; the patient was only able to tolerate light pressure. The right trapezius and sternocleidomastoid muscles were also tender with trigger points on the right, and the patient withdrew from moderate pressure. There was decreased joint play at C2-3 in right rotation, C5-6 in right lateral flexion, and T3-4 in right cervical lateral flexion.

The risks and benefits of manipulation and myofascial release (MFR) were discussed with the child's mother, who then provided verbal and written consent for care while the patient provided verbal approval to be treated. An Activator 4 (Activator Methods International, Phoenix, Arizona) adjusting instrument, a hand-held, spring-loaded percussive device, was applied at its lowest force setting to the aforementioned restricted segments. MFR consisted of ischemic compression to trigger points for 30 to 60 seconds to each location; this duration was shorter than is generally used, because the patient seemed uncomfortable to some degree during the procedure. The patient reported pain relief immediately after treatment and exhibited full cervical spine ROM in office posttreatment with minimal pain. The mother was instructed on how to administer home ice therapy and bilateral cervical spine stretches into left lateral flexion and right rotation. She was shown how to do gentle MFR to the right cervical spine and instructed to perform it 3 times per day. Although a follow-up visit was scheduled, 1 week later the mother reported that all of her child's symptoms had resolved, and she did not bring her child back for care. The patient had shown no restrictions in neck ROM nor complained of pain since the initial visit per her mother's report, who was very pleased with the outcome of care. At the time this case report was submitted for publication, 3 years had elapsed with no recurrence of torticollis.

Case 2

A 33-month-old boy presented to a chiropractic office, and his parents relayed the history and behavior to the doctor. He had been playing in a bouncy house with other active children. The patient did not complain of getting hurt or of his neck hurting at all that day, and the mother was unaware of any injury. He awoke the next morning complaining about right-sided neck pain. He was taken to the emergency department, where the medical doctor examined him and informed the parents there was a swollen lymph node and that

Table 1. Cervical Active Range of Motion by Visualization

	Case 1	Case 2
Flexion	95	90
Extension	30	20
Right rotation	10 ^a	20 ^a
Left rotation	90	90
Right lateral flexion	50 ^a	05 ^a
Left lateral flexion	10 ^a	45

^a Denotes pain at end range.

otherwise everything was normal. He was discharged from the clinic without treatment, and his parents were told to follow up with his pediatrician if it persisted. On the initial visit to the chiropractic clinic 1 day later, the patient could still not turn to the right, but was in less distress than the prior day. He had slept well and had been playing and interacting normally with no problems other than restricted neck motion. This patient's presentation, history, and examination were similar to those of the prior patient with respect to physical examination, neurologic evaluation, and orthopedic exam. The right levator scapula muscle was hypertonic and manifested trigger points, and the patient was able to tolerate only light pressure. The right trapezius and sternocleidomastoid muscles were also tender with trigger points, and the patient withdrew from moderate pressure. There was decreased joint play at C4-5 in right lateral flexion.

On the initial visit, the risks and benefits of treatment were discussed; the mother gave verbal and written consent while the patient indicated verbal approval for diagnosis and treatment. Gentle MFR was applied to the areas indicated in objective findings with 60 to 120 seconds of ischemic compression. No manipulation nor Activator technique was performed because of the patient's intolerance to the setup. The greater duration of ischemic compression in this case, compared with the other reported cases, is attributable to greater patient tolerance. Home ice instructions and cervical spine stretches in left lateral flexion, left rotation, and flexion were demonstrated. The patient reported pain relief immediately after treatment and demonstrated full cervical spine ROM with only mild pain on the previously restricted and painful motions. The mother was instructed on how to perform MFR of the right cervical spine, 3 times per day. Follow-up in 2 to 3 days was recommended.

On follow-up 2 days later, his mother reported that the patient's pain had returned 24 hours after the initial visit. The examination findings were similar, but with increased ROM and an improved pressure tolerance compared with the initial presentation. In addition to the administration of MFR as before, instrument adjustment on the lowest force setting was introduced. After treatment, the patient was pain free in-office with full ROM. Four days after the initial visit, on the second follow-up, the patient experienced neither pain nor diminished ROM. The same treatment was applied again, and the patient returned 5 days later without pain or ROM restrictions and was released from care. He had no recurrences until 3 years later and had a similar resolution with his second episode.

The guardians for both patients provided consent for health information to be published in this article.

DISCUSSION

The 2 cases are similar to each other and reflective of acquired torticollis of muscular origin. Practitioners may get a false sense of security from regularly treating adults with this condition who have very little risk of serious underlying pathologies. This is not necessarily true for the pediatric population, and practitioners may not always

recognize the risk if they have not received extra training in pediatric musculoskeletal disorders. Both serious pathologies and benign presentations may feature similar characteristics, underscoring the need for careful history and examination to achieve a differential diagnosis.

Several diagnostic algorithms exist that fit these 2 reported cases, and the history of acute presentation at 2 to 3 years of age rules out congenital torticollis.^{1,3,28} The absence of direct trauma makes atlantoaxial rotation and orthopedic subluxation less likely. Neither patient had fever, neurologic findings, or delayed milestones, which would indicate more serious underlying pathology. Both patients had pain in the direction of rotation restriction but no spinous process tenderness or deformity. In both cases, there was a time interval between the potential injury and the presentation of acute torticollis, suggesting muscular reaction rather than joint dislocation. No special imaging was required, as serious pathology was unlikely.^{1,13}

There is an evidence-based rationale for conservative myofascial and light adjustive techniques for the management of torticollis in both adults and children.^{16,29,30} Myofascial release may be described as applying gentle sustained pressure to the muscle and connective tissues. To date, the literature addressing the safety of manual therapies for children has found very minimal risk, with most adverse events categorized as mild and self-limiting.^{24,31,32} There appear to be no negative reports in the pediatric or adult literature describing adverse consequences with conservative care for acquired torticollis of muscular origin.²³ One of the main therapies, myofascial release, is typically tolerated well and carries no risks beyond post-treatment soreness. The same principles of muscle relaxation may apply in the acute versus chronic condition.^{33,34} In addition, the authors' clinical experience with adult patients suggests these techniques are well tolerated and effective. There is also some evidence that not treating congenital torticollis and some types of recurrent torticollis may contribute to transient motor asymmetry, motor delay, and plagiocephaly, which would be reversible if addressed properly.³⁵⁻³⁷

In summary, serious pathology may underlie pediatric torticollis and, thus, should be ruled out first. Following this, conservative manual therapy chiropractic care may be a useful treatment for this condition. Because of the increased risk of serious pathology in the pediatric patient presenting with acquired torticollis compared with an adult, the history and evaluation are particularly important. It is possible that a better understanding of this condition could help diminish the risk of delayed care in nonmuscular causes of torticollis. Proper evaluation coupled with appropriate treatment may have contributed to resolution of symptoms and a rapid return to normal function, with no reported adverse consequences.

Limitations

As with all case reports, there are several limitations. It is possible that the condition resolved on its own because of the

natural history of the disorder for these patients. The presentations of these patients may not be the same as those of other patients; therefore, results may not be the same for other patients. As well, treatment varies between one chiropractic practice and another, so results may not be the same in other practices.

CONCLUSIONS

This report described 2 cases of acquired torticollis that resolved under chiropractic care. The successful outcomes suggest that after performing a clinical examination that rules out significant underlying pathology, chiropractic care may be a useful treatment for this condition.

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No funding sources or conflicts of interest were reported for this study.

CONTRIBUTORSHIP INFORMATION

Concept development (provided idea for the research): J.L.Y.
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Practical Applications

- This article adds to the literature on the chiropractic management of acquired torticollis.
- These cases highlight the risks and benefits of treating acquired torticollis in a pediatric population.

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