CASE STUDY

Resolution of Torticollis, Plagiocephaly & Breastfeeding Difficulties in an Infant Following Subluxation Based Chiropractic Care

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Abstract

Objective: To present a case study of conservative chiropractic care of an 8-month-old infant presenting with torticollis and plagiocephaly.

Clinical Features: The patient was an 8-month-old male twin who presented to the office after being diagnosed by his pediatrician with torticollis and plagiocephaly. He received one month of physical therapy prior to his initial presentation, with no resolution. His mother brought him in for an alternative method of treatment after a family member recommended chiropractic.

Intervention/Outcome: The patient received adjustments utilizing the Activator method, a high-velocity, low-amplitude specific adjustment in addition to cranial work. The treatment resulted in complete resolution of the patient’s torticollis and plagiocephaly following two chiropractic adjustments.

Conclusion: This study describes complete resolution of torticollis and plagiocephaly in an 8-month-old male following subluxation based chiropractic care. More evidence is needed to prove the effectiveness of the management of torticollis and plagiocephaly in a pediatric patient.

Key terms: Chiropractic, plagiocephaly, torticollis, pediatric, adjustment, birth injury, birth trauma, Spinal Manipulation Technique, subluxation, head protective device, facial asymmetry, deformational, helmet, congenital muscular torticollis, deformational plagiocephaly, positional plagiocephaly, flat head syndrome

Introduction

Birth trauma is estimated to occur in 29 out of every 1000 births in a hospital setting.¹ Birth trauma can cause several different injuries to the neonate, including but not limited to, brachial plexus palsy, torticollis, and skull malformations. Deformational Plagiocephaly (DP) refers to the flattening of the infant skull secondary to external force. Although many consider DP to be an isolated cosmetic condition, evidence suggests that infants with DP are at a higher risk for developmental delay.² Nonsynostotic plagiocephaly is an asymmetrical condition of the head caused by an extrinsic factor, such as molding, rather than by an intrinsic factor, such as craniosynostosis.³ The causes of nonsynostotic plagiocephaly can be divided into prenatal and postnatal
causes. The prenatal causes include uterine compression and intra-uterine constraint, and the postnatal causes include the sleeping position and congenital muscular torticollis.\(^3\) Plagiocephaly in the U.S. has dramatically increased since the implementation of the “Back to Sleep” campaign, one of the regimens suggested by the American Academy of Pediatrics for preventing the sudden infant death syndrome.\(^{3,4}\)

It is reported that 1 in 300 newborns need appropriate treatment for nonsynostotic plagiocephaly.\(^3\) Known treatment options for plagiocephaly include head repositioning, helmet therapy, and surgery.\(^3\) Past studies have reported that helmet therapy achieved about 3 times faster and better correction than head positioning alone.\(^{3,5}\) However, it could be possible that helmet wearing would result in developing severe complications, such as focal pressure injury.\(^7\) Collett et al suggested that children with deformational plagiocephaly might have developmental delays persisting into school-age.

Torticollis in Latin means, “twisted neck”. It was first defined by Tubby in 1912.\(^6\) Forty-six thousand infants are born each year in the United States with congenital torticollis. It is the third most frequent congenital malformation following hip dysplasia and talipes equinovarus (clubfoot).\(^7\) Torticollis presents as lateral flexion and rotation of the head with the head tilted to the involved side and the chin tilted toward the opposite side of involvement.\(^7\) Torticollis is due to contracture/shorting of the neck musculature, especially the sternocleido-mastoid (SCM) and trapezius muscles.

Other involved muscles may be the splenius capitis, scalenii, levator scapulae, semispinalis, and paraspinal erector muscles.\(^6,7\) Congenital torticollis is associated with hip dysplasia; the reported incidence varies from 0.4% to 1.9%. Up to 20% of children with congenital muscular torticollis have CDH.\(^4\) Talipes equinovarus (club foot); Erb’s Palsy, lower extremity rotary positional anomalies, scoliosis, decreased cervical rotation, and upper cervical subluxation complexes are all associated complications. Congenital torticollis also occurs commonly with facial asymmetry, congenital anomalies of the cervical spine, and plagiocephaly following difficult labors and deliveries.\(^7\) Torticollis is classified into two main groups congenital and acquired. These groups are further subdivided: \(^9\)

1) Congenital Torticollis:
   a) Congenital Postural Torticollis- appears at or soon after birth, and does not affect the sternocleido-mastoid muscle. Although there is no contraction of the sternocleido-mastoid, some flattening of the opposite side of the head and deformity on the involved side is often present. Congenital postural torticollis is present in 2/3 cases and treatment is never required.
   b) Congenital Muscular Torticollis- by far the most famous, commonly seen with a hard lump 10 days post birth. CMT is most commonly a birth injury of the sternocleido-mastoid forming a hard fibrous contraction. This is followed by the development of facial asymmetry and ocular disturbance due to horizontal changes in vision.\(^9\)

2) Acquired Torticollis
   a) Skeletal Disorder- trauma to the cervical spine, deformation of bone, or inflammatory lesions of the cervical spine.
   b) Neurological and Psychological Disorders- spasmotic torticollis, seen in middle aged and elderly people. It is a neurological disorder where the tonic and clonic muscles on the neck contract.
   c) Ocular torticollis- is an over active inferior oblique. Ocular torticollis causes an elevation and lateral rotation of the eye.
   d) Atlantoaxial- rotatory subluxation is a rare condition, which was described for the first time by Sir Charles Bell in 1830. Chronic atlantoaxial rotatory fixation is defined typically as rotatory fixation of the axis on the atlas with duration in excess of 2 to 3 months.\(^10\)

Case Report

History

The patient was brought to the chiropractic clinic by his mother with a diagnosis of plagiocephaly. He is a twin that was born at 38 ½ weeks via C-Section. He was baby A and weighed approximately 7 pounds. Baby B weighed approximately 6 pounds. During his two-month check-up, his mother began to notice that the back, right side of his head was a little mis-proportioned. She discussed this with his pediatrician, who decided to follow him closely for the next couple of months. The pediatrician wanted to re-visit the issue at the next check-up to determine if there had been any improvement.

At the six-month check-up, the mother informed the pediatrician that she was having difficulty breast-feeding the patient. The pediatrician also noticed that there had not been much improvement in the asymmetry of his head. At this point, she decided to have him examined by a cranial specialist at the local children’s hospital. The patient was diagnosed with plagiocephaly.

A Starscan was performed to confirm the diagnosis. It is a laser data acquisition system that is non-invasive with no radiation. The scan takes 1.5 seconds to capture three-dimensional image of a baby’s head shape. This illustrates where reshaping needs to occur.\(^11\) The specialty team decided the best course of action would be physical therapy. Physical therapy was performed for about a month before a second scan was completed. The second scan illustrated slight improvement in the patient’s condition. It was then determined that he was a good candidate for a helmet. The patient was instructed to wear the helmet for about 2 – 3 months.

The patient began wearing the helmet one hour on one hour off, three times the first day; two hours on and two hours off the second day, three times. Four hours on and four hours off the third day. Two times for eight hours on the fourth day and full time (23 hours) the fifth day. The PT agreed that seeing a chiropractor would be advantageous. At the time of presentation the patient was wearing the helmet 23 hours a day.
The mother denied any illnesses or trauma during her pregnancy. She also avoided medications, alcohol, and smoking. She was put on bed rest at approximately five months. Her cervix was shortening, which is considered a sign of pre-term labor. The mother denied any delay in gross motor skills, social skills, fine motor, and communication skills. The child’s immunization history was up to date at the time of his presentation according to the Division of Public Health.

The patient’s exam revealed that he favored his right side when doing any head movement. The patient weighed 17 ¼ pounds, was 26 ½ inches long with a broad 17-inch head circumference. These measurements placed him in the 10% range, using the WHO growth standards. The WHO growth standards monitor growth for infants and children in the U.S. ages 0 to 2 years. His pulse was 152 beats and respiratory was 68 bpm.

Mild swelling and a rash were present on the posterior-inferior occipital bone from helmet irritation. Flattening in the left posterior occipital bone and mal-position of the frontal cranial faults were noted due to a right rotation of the sphenoid bone. His eyes were uneven with the right eye appearing to be larger than the left. His neck and postural muscles were extremely spastic. The patient showed left persisted head rotation, left lateral head tilt, left torticollis, and left restricted motion. Primitive reflexes were positive in Babinski bilaterally, palmer grasps bilaterally, parachute, and head lag. At 8 ½ months the patient was noted to crawl using his upper body bilaterally. He did not display cross crawl.

In the analysis of this patient, to assist with the detection of areas of subluxation motion palpation was used. Motion palpation is an effective assessment tool to detect aberrant joint mobility. The cervical spine was motioned with the patient lying in a supine position. The doctor placed posterior to anterior (P-A) pressure on the individual spinal segments. It was found that the C1 vertebra was mal-positioned to the left, with decreased right lateral flexion and left rotation. There was bilateral hypertonicity from T8-L5. When performing leg check analysis he presented with a left short leg ½, and high left gluteal fold while in the prone position compared to the right. A study by Schwartzbauer and Hart states that the reliability of leg length inequality has been found to have good reliability for prone and prone-knees-flexed leg length analysis.12

**Intervention**

The patient was scheduled for care twice per week. In order to find, analyze and adjust vertebral subluxations Diversified Activator style of adjusting was used. This technique takes into consideration the size difference between the doctor and patient, and the management of frail patients. Adjusting modifications such as drop tables, adjusting instruments, alternate contact points, and patient positioning are all used when, and if, needed at the discretion of the chiropractor.13

The Activator is a device that is used to influence the proprioceptive change in a specific region of the spine. According to Henderson, it is suggested that a burst of coactivated afferent input, using an Activator, into the central nervous system normalizes muscle tone, joint mobility, and ancillary sympathetic activity.14 The activator technique addresses the body’s biomechanics and aims to restore proper biomechanics through a low-force, high speed adjusting instrument.15

In this case with the use of an Activator, the chiropractor contacted the left lamina to correct the subluxation of C1. The activator adjusting instrument was used in a lateral to medial line of correction to bring C1 back into proper alignment. The parents were given specific directions for stretches, passive range of motion exercises, and light massage to perform daily at home. After each adjustment, a post check was performed to assure that range of motion had increased and subluxations were reduced.

Craniosacral therapy was also performed on the frontal and coronal sutures, the occipital, temporal, and frontal for cranial distortions. Craniosacral Therapy (CST) is a gentle, non-invasive, yet effective type of hands-on body treatment that is helpful, in monitoring the cranio-sacral rhythm.16 Children showing abnormal cranial molding after birth, meaning a dent or uneven bulging in the skull or a sutural line that is prominent, may affect the ability of the cranial bones to move properly. It may also alter the sucking response or make the child uncomfortable in certain positions.17

**Outcome**

The mother stated that she saw immediate results following her son’s first adjustment. It was reported that the infant was able to nurse much easier. By the second adjustment, his torticollis had been reduced by 75% and his skull asymmetry was reduced by 25%. The re-exam showed an increase in cervical range of motion, and the patient was showing signs of cross crawl, but still unable to crawl. He had a reduced left head tilt, and an increase in head circumference. There was a reduction in cervical and thoracic spinal muscle guarding. At his third visit, no adjustment was rendered, because his torticollis was 100% resolved, and the patient no longer needed to wear his helmet.

**Discussion**

There is no single theory for the cause of torticollis. Muscular torticollis may be the result of abnormal pressure, anomalous fetal skull positioning, or trauma to the head, neck (SCM) during intrauterine life.7, 10,18 The hereditary theory believes that genetic defects causes unilateral shortened musculature.7, 18 The infection theory is based on pathological findings in microscopes.18

Middleton hypothesized the theory of venous occlusion during delivery. It was discarded when it did not demonstrate the occlusion during dissection or microscopic examination. It is hardly acceptable as the etiologic agent for primary torticollis.18 The theory of birth trauma applies to a large number of cases of muscular torticollis.5, 9,18 A congenitally shortened SCM is torn at birth with formation of a hematoma.
Endomyial fibrosis results in deposition of collagen and migration of fibroblasts around individual muscle fibers that undergo atrophy.6 Cheng et al and Hollier et al noted that a history of difficult birth was associated with 30-60% of patients with CMT.6 The incidence of CMT ranges from 0.3% to 2.0%. There is a moderate male predominance male 3:2, and the right SCM is most commonly.5 Sundesath et al reported that the contributory cause of torticollis might be an upper respiratory tract infection (Geisel’s Syndrome) or a surgical procedure in the neck region.10

Medical Intervention

Chung et al18 defines congenital muscular torticollis as a distinct entity, the primary pathological characteristics of which are limited to the SCM. Deformities of the face, head, ear, and cervical spine are secondary to abnormal position of the head. CMT is often present within the 10th-14th day. As the SCM muscles become increasingly shorter, the torticollis becomes increasingly severe, and the head tilts towards the affected side while the face goes to the opposite side. During these studies 17 patients, 7 boys and 10 girls, ages 1 week to 5 years were the subjects. History revealed that 12 of the patients were born cephalic, and 5 were breeched. The two main methods of treatment for torticollis were exercise and surgery. All of the patients underwent surgery; one had limited ROM that was later corrected with additional surgery.

Sundesath et al10 reported that rotation at atlantoaxial joint may be an important cause of torticollis in infants. The term atlantoaxial describes chronic atlantoaxial rotatory fixation with duration in excess of 2 to 3 months. In a survey of 288 children with torticollis, only 2 had verified atlantoaxial subluxation. Atlantoaxial fixation was established in 1979 on the basis of acute and chronic. There were six children in this study. Five of the patients had suffered from neck trauma, while the sixth had torticollis.

The surgical methods used were Gallie fusion, and Harms technique. Afterwards, five of the six were placed in a cervical collar and one wore a halo vest. Full reduction was achieved in two, partial in three of the children, and the sixth child had bone fusion, which made it impossible to correct the damage. Atlantoaxial has preponderance for females, unlike torticollis, which is often seen in males’ 3:2. Surgical treatment of atlantoaxial rotatory fixation did not lead to normalization of the anatomical conditions in the neck.

Yoo et al3 reported on a study done from 2008-2011 to analyze the effectiveness of helmet therapy for the nonsynostotic plagiocephaly patient. During this study, 108 patients were placed into subcategories based on age, severity, and helmet wearing time. Nonsynostotic plagiocephaly is not a spontaneous resolving problem; therefore treatment effectiveness was conducted using cranial vault asymmetry and cranial vault asymmetry index. It is reported that helmet wearing time per day is 20 hours. Nonsynostotic plagiocephaly is caused by external factors during prenatal such as uterine compression and intra-uterine constraint. Postnatal dysfunction has been associated with sleeping position and congenital muscular torticollis. Each patient was given a customized helmet that would reduce prominent areas passively.

Flattened areas would grow in the hollow space in the helmet. 3 physicians using calipers took the measurements. The mean CVA and CVAI were 4.7 mm (range, 0 to 10 mm) and 3% (range, 0% to 6.85 %), respectively. The final CVA and CVAI significantly decreased, CVA and CVAI (P < 0.0001 and P<0.0001). The physicians considered a final CVA ≤ 5 mm as a successful treatment. The rate of successful treatment was 73% (75 in total 108 patients). In this study, a good treatment effect of helmet therapy was reported by comparing initial CVI and CVAI with final CVI and CVAI. However, there is no quantified standard measurement for the assessment of the outcome of helmet therapy.

Lipidra et al4 reminded us that 3-deformational plagiocephaly has had an increase in incidence since 1992 when the "AAP recommended that infants should sleep in a supine position to avoid sudden infant death syndrome" It is the most common head shape abnormality in infants. "The etiologies include sleep position, myoneural dysfunction, and intrauterine constraint. Risk factors have been identified that include birth injury, preterm birth, and male predominance." The two main treatments are helmet therapy and active repositioning. Helmet therapy is believed to be safe, with no reported detrimental effect on cranial growth. Active repositioning is inexpensive; however it requires strict compliance and some evidence suggests it is less effective than helmet therapy.

Chiropractic Intervention

Kent defines vertebral subluxation according to Stephenson's 1927 text. Vertebral subluxation occurs when: 5,19-22,25
1) Loss of juxtaposition of a vertebra with the one above, the one below, or both
2) Occlusion of an opening
3) Nerve impingement
4) Interference with the transmission of mental impulses.

Chiropractors perform chiropractic adjustments to reduce vertebral subluxation and to eliminate specific nerve interference. There are several different vertebral subluxation models, but all of them address the correction of nerve interference caused by a segmental misalignment.19 A limited number of studies have shown positive effects of chiropractic care for the treatment and resolution of torticollis and plagiocephaly.20 The following is a selective review of literature regarding the outcomes of chiropractic treatment.

Hammer20 reports congenital muscular torticollis is a condition that responds very well to stretching and spinal adjustments. CMT is most commonly due to intrauterine malposition and/or birth trauma, since it is most frequently seen after breech presentations. "Other possibilities are spontaneous subluxation of a cervical vertebra, cervical
adenilat soft tissue infection, neck tumors, myositis or disease of the basal ganglia." When left untreated, the cervical fascia and scaleni muscle may contract, causing a cervical and thoracic scoliosis to develop. One of the signs of CMT is a palpable mass in the SCM. This may be the result of venous occlusion during the birth trauma. This mass usually appears within three weeks after delivery and attains maximum size by one month.

In this article, Emery states that educational stretches are helpful. The doctors used slight traction to gain relaxation, and rotated the head to increase range of motion (ROM). Also 10 degrees lateral bending stretch was performed. The head was laterally flexed, attempting to have the ear reach the shoulder. When in the crib, the infant should be positioned in such a way as to force lifting of the head towards the direction of correction.

Toto discussed a 7- month male infant with significant head tilt since birth. The exam revealed abnormal positioning in utero leading to a premature C- section. The mother stated that the infant had a history of being colicky, ear infections, facial asymmetry, and projectile vomiting, 15 times per day. Muscle tension and spasm were palpated in the left SCM and trapezius, with fixations in rotation of C1-C3. The infant was unable to rotate his head without dropping his chin.

The patient was treated for 3 months, 3 times a week, using diversified procedures, trigger point, and home exercise. Two weeks after starting care, the mother stated that he began to walk, talk, and a reduction in regurgitation was noticed. After six weeks, a physical therapist recommended to discontinue therapy, stating that the patient was doing well under chiropractic care. At 3.5 months, the pediatric orthopedist stated that the patient had excellent range of motion (ROM). Five months later, the patient no longer showed a head tilt, nor spasm.

McWilliams and Gloar article reported on a clinical observation case of a 6 year-old girl suffering with torticollis. Her parents didn't notice her head tilt until she was three years old. When taken to an orthopedist, her parents were told that the child’s head tilt was just a habit. A year later, the mother took the child for a second opinion. The orthopedist diagnosed her with torticollis and recommended physical therapy. After 15 sessions of PT with no favorable results, she was given a collar to wear for six months. When initially brought into the clinic, she was unable to play more than an hour, and she was unable to lift her head to an upright position.

She appeared to have shortened SCM muscles on the left, and reduced cervical range of motion. She experienced headaches after episodes of epileptic seizures. After returning for the second adjustment, the mother stated that the child no longer wore the collar, and played with her sibling for the first time without a feeling of fatigue. The child was reexamined 8 months later and again, one year later. In this study 3 consecutive days of adjustments corrected a congenital torticollis that had been present for years.

Alcantara and Anderson reported on a three-month-old female presenting for chiropractic care. Her chief complaint was gastro esophageal reflux disease (GERD). She had a history of chiropractic care for gas and vomiting. Her mother stated that the issues were never resolved and her daughter frequently woke up at night. She had difficulty feed, and had a high-pitched cry when being held, followed by full body rigidity.

The examination revealed a positive suckling reflex, 45-degree right head rotation with left lateral flexion, and a flat right occipital lobe. Following initial spinal manipulative therapy, her mother stated that the child was able to breastfeed and sleep 3 ½ hours without interruption. By the 7th visit, the vomiting was reduced to once per day, there was absence of body rigidity, and a quieter cry. Long term follow-up revealed full resolution of all symptoms.

Akers and Cassidy’s case report was conducted on three patients presenting with torticollis. The severity of their condition proved to have underlying causes. The report stated that torticollis could be the first indication of a more serious disorder. Torticollis may be a congenital or acquired condition. In the first case, an eight-year-old girl presents with torticollis that she's had since birth. Past physical therapy care was ineffective. She had restricted left rotation and right lateral bending, 25 percent, and surgery was the recommended care.

Her mother brought her in for chiropractic care. The mother felt it was helpful, even though facial asymmetry was still present. After 8 months of chiropractic care, her mother reported that the torticollis was less severe. Despite this, the mother decided on the surgery, in hopes of reducing the facial asymmetry.

The second case discussed a fifteen-month old who showed improvement in neck movement with chiropractic care, until she fell hitting her head and neck. On examination, a slightly increased cervical lordosis, an elevated shoulder, and stooped posture when walking were noticed. Enlargement of the spinal cord was found in a CT scan; therefore, surgery was performed to remove the mass.

A post surgery assessment four years later revealed a normal child with full cervical ROM, but a slightly shorter neck for her age. The final case was on a five-month-old boy who, after falling, would not sit up, and his head remained tilted to the left. On examination, the left clavicle was noted to be irregular; his head tilted to the left and rotated to the right, and his lab revealed elevated ESR and white blood cells. Two days after being discharged from the hospital, his parents returned stating that he was now vomiting, wasn't eating, and was increasingly colicky.

A CT scan revealed enlargement indicating a tumor. He died the following morning of cardio respiratory arrest. The article shone a light on the fact that torticollis can be associated with a wide variety of childhood illnesses, and serious underlying pathology should always be considered.

Rubin and Istok presented a case study on a three-month boy brought into the clinic. The patient was extremely colicky,
difficulty feeding, abdominal dissension, torticollis, plagiocephaly, has, and restless sleep. His examination revealed low left occiput, smaller than normal anterior fontanel, and sphenoid misalignment. A C1 subluxation and an ilium fixation were also noticed. The patient's care plan involved chiropractic care twice a week, as well and cranial adjustments.

Following the first adjustment the patient was immediately relaxed, and had in improvement in the ability to turn his head. By the fourth visit his torticollis and colic were completely resolved. As in the study done by Fallon and Fysh chiropractic care as the sole intervention corrected the problems of this patient.

Genereux and Alcantara reported that an estimate 2.6% of births are complicated by a birth trauma, leading to craniofacial or cervical spine injuries. Past medical care for torticollis and plagiocephaly involve therapy, cervical spine stretching, Botox, surgery, or helmet molding. In this case study a four-day-old male was brought in with for a primary concern of twisted face. He also suffered from constipation, and gas. The mother who was under chiropractic care during her pregnancy for low back pain was advised by a medical doctor to bring her son in for a chiropractic consultation.

The patient’s exam revealed left flexion of the trunk with pronounced right rotation of the head. Further examination revealed hip, temporalmandibular, and glenohumeral joint restriction. The initial care plan was once per week, and later every two weeks. That patient was adjusted using the diversified technique, and the parents were given at home instructions, for daily muscular treatments. This included soft-tissue massage, cranial massage, and inversion therapy. After his first adjustment the mother stated seeing improvement, and increased bowel movements.

During the third visit the patient displayed facial asymmetry; by the 13th visit the patient cervical rotation was symmetrical. His re-examination revealed no cervical malpositions with only slight facial asymmetry remaining. In this report chiropractic care of an infant suffering from birth trauma was proven beneficial.

Lastly McCoy et al. reported that torticollis is a form of dystonia of the SCM muscles and a clinical sign of an underlying condition, but not a specific condition. The patient was a four-month- old female brought in by her mother after noticing a lump on the infants left SCM. Prior to her initial presentation the patient was going to physical therapy once a week for the past three months with minimal improvement.

The mother also stated that the patient started supplements at six weeks due to difficulty latching on the right breast. The patient’s examination confirmed a left lateral head tilt and restricted flexion of the left arm. Palpation revealed spasm of the left sternocleidomastoid muscle. Hypomobility of the left atlas with hypertonicity of the suboccipital musculature. The patient was treated by an upper cervical technique known as toggle.

The patient also received cranial work and returned for care every two days. Each time the patient returned there was difficulty turning her head, which slowly improved by the time of her eighth visit. By this visit the torticollis was visibly better. The patient had improved left head rotation and left arm flexion was noted. This is another effective case in proving that chiropractic adjustment had a positive outcome in reducing torticollis.

Limitations

Limitations of this case are a small sample size; this is one case study. Measurements upon chiropractic exam were not noted; therefore, these parameters could not be addressed clinically significant. There was also a combination of chiropractic techniques used in the management of this patient. Although all parameters were in the chiropractic realm, one specific technique was not shown to be more effective than the other. The patient also had physical therapy during the time of chiropractic care and kept wearing his helmet for 23 hours per day.

Conclusion

The use of conservative chiropractic care is shown to be an effective alternative treatment, showing positive results as described in the resolution of plagiocephaly and torticollis in an eight-month old. More evidence with larger sample sizes following a specific chiropractic technique is needed to prove the effectiveness of the management of torticollis and plagiocephaly in a pediatric patient. It is important to have all newborns checked for subluxations, whether they experienced a traumatic birth or not. The use of pediatric chiropractic care is safe, showing that one child per 100-200, or 0.53% to 1%, receiving pediatric chiropractic care experienced mild adverse events. It has been agreed upon that infants can receive chiropractic care as long as the doctor learns to communicate efficiently with the parent, since the patient cannot speak for themselves, as well as practicing appropriate co-management and referral for specific health conditions.

References