

Chiropractic Correction of Congenital Muscular Torticollis

BLASE J. TOTO, D.C.*

ABSTRACT

Objective: To present a case of congenital muscular torticollis and discuss the clinical manifestations and chiropractic treatment.

Clinical Features: A 7-month-old male infant with significant head tilt since birth was brought to a chiropractic physician for evaluation. The infant's history included ear infections, facial asymmetry and regurgitation. Significant spasm of the left sternocleidomastoid and trapezius muscles, a left lateral atlas and suboccipital joint dysfunctions were present upon examination. A diagnosis of congenital muscular torticollis was made.

Intervention and Outcome: Treatments included chiropractic manipulation, trigger point therapy, specific stretches, pillow positioning and exercises. Excellent results were obtained.

Conclusion: Suggests that chiropractic intervention is a viable treatment option for congenital muscular torticollis. Further studies should be performed to compare the effectiveness of other treatment options. (*J Manipulative Physiol Ther* 1993; 16:556-559).

Key Indexing Terms: Torticollis, Chiropractic.

INTRODUCTION

Congenital muscular torticollis is a distinct clinical entity that is seen in the newborn, infant and child. The classic presentation is that of a newborn or infant child whose head tilts toward one side while the chin rotates away due to contracture of the neck musculature, particularly the sternocleidomastoid and trapezius muscles. A tumor may be present within the muscle belly of the sternocleidomastoid on the involved side. The tumor persists for 2-3 months and gradually disappears at around age 4-6 months. Frank tumors are rarely reported on clinical examination, which may reflect the natural history of this disease and the age of the child at the initial evaluation. Plagiocephaly may be seen early, while facial asymmetry manifests later with persistence or progression of the contracture. The obstetrical history usually reveals a breech presentation or a difficult delivery. An abnormal fetal position in utero is a likely cause of this condition (1, 2).

Congenital muscular torticollis is the third most common congenital musculoskeletal anomalous condition, after hip dislocation and talipes equinovarus, with reported incidence varying from 0.4-1.9% (1). Congenital

dysplasia of the hip is associated with congenital muscular torticollis, which, along with breech presentation, supports the intrauterine malposition theory as an etiologic factor (2).

Cervical range of motion is usually severely limited. Head tilt is the most common sign associated with this condition (2). Several common clinical findings are listed in Table 1.

CASE REPORT

A 7-month-old male infant suffered from significant head tilt and was brought to our office by the concerned mother (see Figure 1). The obstetric history revealed an abnormal positioning in utero that resulted in a cesarean section. The left head tilt had been present since birth. The mother noted that besides head tilt, the infant appeared to be very unhappy and regurgitated up to 15 times per day. Projectile vomits occurred about once per week. The infant cried quite frequently and did not appear content when examined.

He was delivered approximately 3-4 wk early. Because the labor did not progress, a cesarean section was performed. Birth weight was 5 lbs. 12 oz. The patient had suffered from ear infections frequently since birth. A mild facial asymmetry was noted with flattening on the left. There was also an asymmetry of his nostrils.

Muscle tension and spasm were palpated in the left sternocleidomastoid and trapezius muscles. Motion palpation examination revealed fixations in rotation on

* Private practice of chiropractic.

Submit reprint requests to: Blase J. Toto, D.C., 281 Summerhill Road, East Brunswick, NJ 08816.

Paper submitted April 20, 1992; in revised form May 18, 1992.

TABLE 1. Clinical findings

Head Tilt
Tight Sternocleidomastoid
Restricted Range of Motion
Plagiocephaly
Tumor
Facial Asymmetry
Suboccipital Muscle Tension
Lateral Atlas

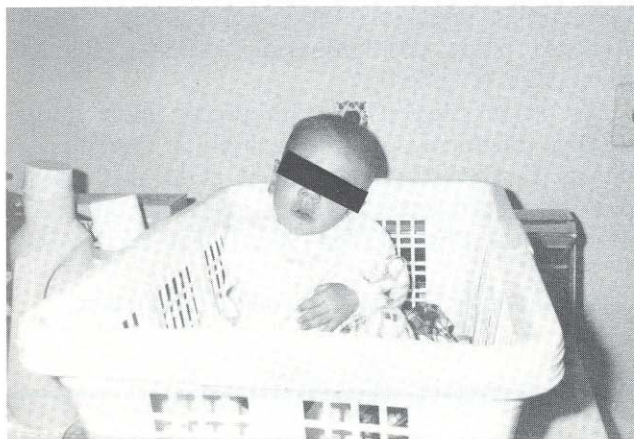


Figure 1. Six-month-old infant prior to treatment.

the left at the C1–C3 motor units and right lateral bending fixation on the right at the C3–C4 motor unit, as well as a left lateral atlas on static palpation with an inferior occiput on the left. The child was unable to rotate to the right without dropping his chin to his chest in full flexion. Right lateral bending was severely limited, and he could only straighten his head to a near neutral position with assistance. A tumor was not present in the sternocleidomastoid upon palpatory examination.

The hips were found to be normal, with no presence of congenital hip dysplasia. Plagiocephaly was present.

The patient's mother gave consent for chiropractic care to be initiated. The patient was treated with manipulation of the cervical spine, specifically manipulation of a rotation fixation at the C1–C3 level on the left, a left lateral atlas, and a right lateral flexion fixation of the C3–C4 level on the right. Audible releases were heard and felt as the patient was treated with diversified procedures. Trigger point therapy was performed on the sternocleidomastoid and the trapezius musculature on the left. Passive stretching was performed as well on the sternocleidomastoid and trapezius musculature. Home exercises were prescribed for the mother to perform on the child to enhance the range of motion in the cervical spine. Also, pillow positioning was recom-

mended while the patient was sleeping to stretch the involved musculature and hold the head in a more neutral position.

The patient was treated for approximately 3 months at a frequency of 3 times per week. As symptoms started to resolve, and as the patient improved objectively with a decreasing head tilt and a decreasing spasm of the involved musculature, the frequency of visits was decreased. Also, as the head tilt was improving, the regurgitation also resolved and the patient's overall disposition changed dramatically. His mother stated "that 2 wk after starting chiropractic care he started walking in a walker, talking and, most importantly, stopped crying all the time. He also started to laugh, which he rarely did." After being under care for 6 wk, the patient was examined by a pediatric orthopedist who recommended the patient see a pediatric physical therapist. The physical therapist recommended home exercises but stated that the patient was doing well with chiropractic care and found there was no need to implement physical therapy. After being under care for approximately 3.5 months, the patient had a reevaluation with the pediatric orthopedist, who stated that the torticollis was improving nicely and that the patient had excellent active range of motion of his cervical spine. He felt that the left sternocleidomastoid was slightly tighter than the right, but with subtle difference. There was still some mild facial asymmetry and some flattening on the left, which was expected to improve gradually.

The patient has had reoccurrences of minor tilting due to falls and accidents as he learned how to walk. This resolved completely with chiropractic care. Five months after the initial evaluation, maximum medical improvement had been achieved (see Figure 2). The patient had no tilting and no spasm of the previously



Figure 2. Twelve-month-old infant after treatment.

involved musculature. It was recommended that the patient continue on a treatment schedule for periodic reexamination and manipulation to prevent any future occurrence of the torticollis.

DISCUSSION

Early diagnosis is the key in the successful treatment of congenital muscular torticollis (3). Conservative care administered during the first year of life is felt to be very successful, whereas conservative care after the first year of life is often unsuccessful (1-3). Conservative care here may include physical therapy, stretches and exercises. Surgery is indicated where conservative care fails. Surgery is usually not considered until after 1 yr of age. The surgery that is usually performed is a release of the affected sternocleidomastoid muscle at its sternal and clavicular insertions (4). Lawrence and Azizkhan (3) state that patients with involvement of the trapezius muscle can resist the most aggressive therapeutic efforts. They state if the condition persists for more than 1 yr of age, it is unlikely to resolve without surgery. As mentioned in the case report, our patient had involvement of the trapezius muscle spasm. Therefore, there is evidence to suggest that the patient's response to chiropractic care was not attributable to the natural history of congenital torticollis.

Gutman (5) states that patients with congenital muscular torticollis often suffer from recurring ear infections, upper respiratory infections and bouts of regurgitation. This was evident in our patient. Congenital vertebral anomalies can also result in lateral head tilting. Anomalies of the atlas, which are rare, and Klippel-Feil syndrome, which is more common, can occur (6). However, radiographs of the very immature cervical spine may not reveal these bony anomalies (7). Associated conditions that occur with congenital muscular torticollis include congenital hip dysplasia, facial asymmetry, scoliosis, Erb's palsy, club foot, and lower extremity rotary and positional anomalous conditions (see Table 2). Therefore, examination of the infant with congenital muscular torticollis should include evaluation of the lower extremities.

One study showed that an extended posture of the cervical spine was present the majority of the time in

single breech presentations as revealed by fetal radiographs, and a flexed posture of the cervical spine was present in both cephalic and double breech presentations. This study suggests that the fetal posture with both the knees and the cervical spine extended seems to be closely related to the development of torticollis (8).

Congenital muscular torticollis has been termed by Gutman as "atlas blockage syndrome" (5) and, more recently by Biederman (9) as "kinematic imbalances due to suboccipital strain, or K.I.S.S. syndrome." This draws attention to the pathomechanics of the cervical suboccipital junction. These authors state that the spasm of the sternocleidomastoid is more a symptom than a cause of the condition. They found that manipulation of the upper cervical spine corrects the condition and relieves the spasm of the involved sternocleidomastoid (9).

The reported incidence of congenital muscular torticollis in infants varies from 0.4-1.9% of all births (1). The National Center for Health Statistics reports that there were 4,021,000 births in 1989 in the United States (10). If an average is taken of 1.15% of the incidence of congenital muscular torticollis found in infants, this represents approximately 46,000 infants that are born with congenital muscular torticollis annually in the United States. Due to the paucity of papers on the chiropractic treatment of this condition in the medical literature and the stated incidence for this condition, it is my opinion that more studies should be done on the chiropractic treatment of congenital muscular torticollis.

It is also my opinion that chiropractic treatment should be administered as early as possible. It should also be administered prior to surgical alternatives being considered.

CONCLUSION

Forty-six thousand births result in cervical muscular torticollis in the United States annually. This case suggests that chiropractic intervention may be a viable conservative treatment for congenital muscular torticollis and associated health problems. I recommend that a trial of chiropractic care should be initiated as early as possible and precede referral for surgical correction. Further study of cervical adjustments and soft tissue manipulation is indicated.

With the number of chiropractors becoming involved with hospitals across the country, this would be a good setting to start research of this type (11). Chiropractic physicians would have the ability to administer treatment early and work on several cases. Comparison

TABLE 2. Associated conditions

Hip Dysplasia
Facial Asymmetry
Scoliosis
Club Foot
Erb's Palsy
Lower Extremity Rotary Positional Anomalies

studies of physical therapy vs. chiropractic treatment could be performed; difficult cases that would be referred for surgery could be referred for chiropractic care to document effectiveness. It is my opinion that the joint dysfunction as well as the muscular tightening needs to be treated for the best results.

ACKNOWLEDGMENT

The author wishes to thank Joseph Stallone, D.C., for his kind referral of this patient.

REFERENCES

1. Binder H, Eng G, Gaiser J, Koch B. Congenital muscular torticollis: results of conservative management with long term follow-up in 85 cases. *Arch Phys Med Rehabil* 1987; 68:222-5.
2. Morrison D, MacEwen G. Congenital muscular torticollis: observations regarding clinical findings, associated conditions, and results of treatment. *J Pediatr Orthop* 1982; 2:500-5.
3. Lawrence W, Azizkhan R. Congenital muscular torticollis: a spectrum of pathology. *Ann Plast Surg* 1989; 23:523-9.
4. Tse P, Cheng J, Chow Y, Leung P. Surgery for neglected congenital torticollis. *Acta Orthop Scand* 1987; 58:270-2.
5. Guttman G. Blocked atlantal nerve syndrome in infants and small children. *Manuelle Medizin* 1987; Reprinted in English by the ICA International Review of Chiropractic 1990; July/August:37-43.
6. Dubousset J. Torticollis in children caused by congenital anomalies of the atlas. *J Bone Joint Surg* 1986; 68-A:178-88.
7. Brougham D, Cole W, Dickens D, Menelaus M. Torticollis due to a combination of sternocleidomastoid contracture and congenital vertebral anomalies. *J Bone Joint Surg* 1989; 71-B:404-7.
8. Suzuki S, Yamamuro T, Fujita A. The artiological relationship between congenital torticollis and obstetrical paralysis. *Int Orthop* 1984; 8:175-81.
9. Biederman H. Kinematic imbalances due to suboccipital strain in newborns. *J Bone Man Med* 1992; 6:151-6.
10. The National Center for Health Statistics. Trenton, NJ.
11. Fultz O. Chiropractic, what can it do for you? *Am Health* 1992; 4:41.