

Clinical, Diagnostic and Management Approach to Congenital Muscular Torticollis



Healthcare

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Abstract

Congenital muscular torticollis, also called twisted neck or wryneck, is a condition in which an infant holds his or her head tilted to one side and has difficulty turning the head. In congenital torticollis, the muscle that extends down the side of the neck, the sternocleidomastoid muscle is tight and shortened. For most babies, stretching exercises and simple changes in how the infant is held or positioned will gradually lengthen the muscle and correct the problem. Congenital muscular torticollis is present at birth or develops soon after. It is usually discovered in the first 6 to 8 weeks of life, when a newborn begins to gain more control over the head and neck. In conclusion, early assessment and diagnosis play an important role in better means of medical management and good prognosis.

Introduction

Torticollis is the term for the clinical finding of a twisted or rotated neck. In Latin, the word *tortus* means twisted, and *collum* means neck. Torticollis, also called wryneck, is a common complaint in children and may be congenital or acquired. Illustration of torticollis in figure 1 and 2.

Torticollis occurs in 0.4% of all births.^{1,3} A visible or sometimes palpable swelling, often referred to as a sternomastoid tumor, appears in a part of the muscle in infants aged 2-3 weeks.^{1,3} It often persists until they are aged 1 year.^{2,3} It is rarely bilateral and may be seen in older children in whom the mass was not previously identified.⁴

An end-arterial branch of the superior thyroid artery supplies the middle part of the sternocleidomastoid; obliteration of this end artery may be responsible for the development of muscle fibrosis. As an alternative, primary trauma that temporarily and acutely obstructs the veins may lead to intravascular clotting in the obstructed venous tree. In infants, this clotting is evidenced by the development of a sternocleidomastoid mass, which eventually disappears and is replaced by fibrous tissue.

Abnormalities in the basal ganglia may be involved in the pathophysiology of spasmodic torticollis. On the other hand, some vestibular abnormalities have been reported that are not explainable solely as secondary to abnormal head and neck movements in spasmodic torticollis but seem to be more intimately related to its pathophysiology. In this respect, abnormal interaction of vestibular signals with higher-order motor commands and disrupted central vestibular processing, perhaps caused by subtle imbalances in the vestibular system, seem particularly important.

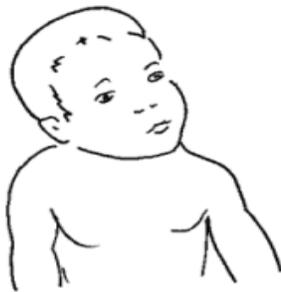


Figure 1.



Figure 2.

Discussion

Clinical Diagnostic approach

It is important to differentiate muscular from nonmuscular torticollis. Congenital muscular torticollis is benign; missing a case of nonmuscular torticollis is potentially serious.

During clinical examination, the entire length of the muscle must be palpated to determine if fibrosis or an area of fibrosis is present along the entire length of the muscle. The anterior border of the muscle must be palpated. It generally stands out as a tight band. This may be difficult to detect in small infants because the neck is relatively short. If the muscle is neither short nor prominent, alternative differential diagnoses must be considered, such as the following:

Abnormal position in utero; cervical hemivertebrae; cervical lymphadenitis; cervical abscess; retropharyngeal abscess; ocular muscle torticollis; tumors of the posterior fossa; atlantooccipital subluxation; sandifer syndrome; postural abnormalities.^{1,3}

The cause of congenital muscular torticollis is unknown; however, it may be related to abnormal positioning; breech position or crowding of the baby while in the uterus. This results in an injury to the neck muscle that scars as it heals. The amount of scar in the muscle determines how tight the muscle is. Having tighter space in the uterus is more common for first-born children, who are more likely to have torticollis, as well as hip dysplasia. There is no known prevention of congenital muscular torticollis. Imaging and proper interpretation of radiologic examinations are important part of diagnosis.⁵

Management approach

Nonsurgical Treatment

The standard treatment for congenital muscular torticollis consists of an exercise program to stretch the sternocleidomastoid muscle.⁴ Stretching exercises include turning the baby's neck side to side so that the chin touches each shoulder, and gently tilting the head to bring the ear on the unaffected side down to the shoulder. These exercises must be done several times a day. There are other options that can help. Position toys where your baby has to turn his or her head to see them. Carry the child so that he or she looks away from the limited side, and position the crib so that the child must look away from the limited side to see mother or caregiver outside the crib.

Surgical Treatment

If nonsurgical options do not correct the torticollis, the doctor may suggest surgery. Approximately 10% of children with congenital muscular torticollis require surgery.⁷ The procedure will lengthen the short sternocleidomastoid muscle, and may be done as an outpatient surgery.

Conclusion

Early assessment and diagnosis play an important role in better means of medical management and good prognosis.

References

1. Kuo AA, Tritasavit S, Graham JM Jr. Congenital muscular torticollis and positional plagiocephaly. *Pediatr Rev* 2014; 35:79.
2. Cheng JC, Wong MW, Tang SP, et al. Clinical determinants of the outcome of manual stretching in the treatment of congenital muscular torticollis in infants. A prospective study of eight hundred and twenty-one cases. *J Bone Joint Surg Am* 2001; 83-A:679.
3. Davids JR, Wenger DR, Mubarak SJ. Congenital muscular torticollis: sequela of intrauterine or perinatal compartment syndrome. *J Pediatr Orthop* 1993; 13:141.
4. Tufano RP, Tom LW, Austin MB. Bilateral sternocleidomastoid tumors of infancy. *Int J Pediatr Otorhinolaryngol* 1999; 51:41.
5. Kaplan SL, Coulter C, Fetters L. Physical therapy management of congenital muscular torticollis: an evidence-based clinical practice guideline: from the Section on Pediatrics of the American Physical Therapy Association. *Pediatr Phys Ther* 2013; 25:348.
6. Haque S, Bilal Shafi BB, Kaleem M. Imaging of torticollis in children. *Radiographics* 2012; 32:557.
7. Gurpinar A, Kiristioglu I, Balkan E, Dogruyol H. Surgical correction of muscular torticollis in older children with Peter G. Jones technique. *Journal of Pediatric Orthopedics* 1998; 18(5): 598-601.