



International Journal of Orthopaedics Sciences

ISSN: 2395-1958
IJOS 2017; 3(4): 615-617
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www.orthopaper.com
Received: 25-08-2017
Accepted: 27-09-2017

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Case report on torticollis

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DOI: <https://doi.org/10.22271/ortho.2017.v3.i4i.85>

Abstract

Congenital Muscular Torticollis (CMT) is a rare congenital musculoskeletal disorder. results from shortening or excessive contraction of the sternocleidomastoid (SCM) muscle. It presents in newborn infants or young children with incidence varies between 0.4 and 1.9%. Due to effective shortening of SCM on the involved side there is ipsilateral head tilt and contralateral rotation of the face and chin. This article reports a case of CMT in a 5 year-old female child successfully managed by surgical release of the involved SCM followed by physiotherapy.

Keywords: Congenital, sternocleidomastoid muscle, tenotomy, torticollis

Introduction

Torticollis, from Latin *tortus* (*twisted*) and *collum* (*neck*) was defined by Tubby in 1912 as a deformity, congenital or acquired, characterized by inclination of the head to the shoulder, with torsion of the neck and deviation of the face. Congenital muscular torticollis (CMT) is a painless condition caused due to unilateral shortening of the sternocleidomastoid muscle (SCM) usually presenting during infancy. Its incidence varies between 0.3 and 2%, with a male/female ratio of 3:2. It is the third most common musculoskeletal congenital condition after dislocation of the hip and clubfoot. Numerous theories have been proposed, but the true etiology of CMT remains uncertain. Various causes implicated for CMT includes intrauterine crowding or vascular phenomenon, fibrosis from peripartum bleeds, compartment syndrome, primary myopathy of the SCM and traumatic delivery. The diagnosis of CMT is based on the clinical palpation of a firm mass or fibrous band within SCM muscle. Most cases resolve with conservative treatment (physiotherapy), seldom requiring surgery. A case of congenital muscular torticollis is presented who reported at the age of 5 years and has been successfully treated by unipolar, SCM muscle release followed by use of readymade cervical brace.

Case Report

A 5-year-old female child presented with the complaint of neck stiffness and restricted head movement. The patient was first-born child with no positive family history for muscular torticollis. Congenital muscular torticollis was diagnosed in the first year of life. She had undergone physical therapy of active neck stretching exercise at the age of three half as part of the rehabilitation process, medical history revealed abnormal obstetric presentation i.e breech presentation and birth is done by ceserion section. Systemic evaluation revealed no abnormality. Radiographs of the cervical spine, hips and lower extremities were normal.



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Preoperative clinical photograph showing the child with congenital muscular torticollis affecting the right sternocleidomastoid muscle patient's attitude was characterized by a tilting of the head to the right with a mild rise of the ipsilateral shoulder and the projection of the chin to the left side. Clinical examination found a shortened, prominent and cord-like right sternocleidomastoid muscle. Compared to the other side, the limitation in rotation of the neck to the left side. Physiotherapy was started for the patient to achieve SCM muscle stretching. However, after 8 weeks of exercise, there was no improvement in the condition, then patient refer from private practice doctor for further management. The patient was admitted for a surgical approach. We performed a unipolar release of the right sternocleidomastoid muscle under general anesthesia and postoperative use of a cervical brace, aggressive physical therapy and postural exercises. With the patient in a supine position, maximum stretch and tension of the affected SCM muscle was achieved by hyperextension of the neck and rotation of the head to the opposite shoulder. A simple technique of ipsilateral sternomastoid release at its inferior insertion was done by placing a transverse incision 1.5 cms superior to the right clavicle. The subcutaneous tissue and platysma were divided to expose the thick fibrotic cord-like SCM. Blunt dissection was carried out around the insertion of SCM. Division of the clavicular attachment of the muscle was done) without disturbing the articular portion of the sternoclavicular joint as well as preserving the external jugular vein. This was followed by blunt dissection of the fibrosed deep cervical fascia. On division of the fibrosed band visible elongation of the neck was obtained and free neck movements achieved. Subcutaneous tissue and skin were closed. A Philadelphia brace was maintained for 10 full days, then partially during a month. Three months of regular muscular rehabilitation including passive and active stretching and physiotherapy (supervised by a physiotherapist) were necessary. Aggressive physiotherapy, which included neck strengthening and extension exercises, was started from fifth post-operative day for a duration of 3 months.



Fig (a)

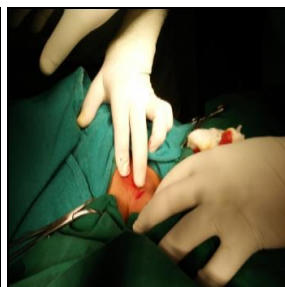


Fig (b)



Fig (c)

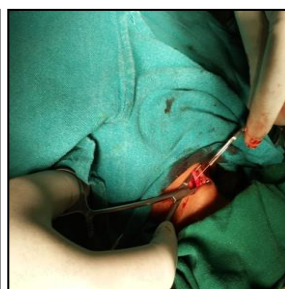


Fig (d)

Intraoperative Photographs. The taut band (c) was released in full at its clavicular attachment



Postsurgical view

Discussion

The term wryneck arises from old English word wrigan meaning to turn can also be defined as twisted or distorted. The reported incidence of CMT varies from 0.3% to 2% with overall incidence that can be as high as 1 in 250 live births. Various theories have been proposed as a etiology but exact etiology is still not known. Some authors believe the hypothesis that there is a hematoma formation in the SCM from an intrauterine vascular disturbance, intrauterine malposition of the head, or due to compartment syndrome where the SCM shortens. Birth injury, infections, and hereditary theories have also been discussed. The most common presentation of child with CMT is a head tilt toward the affected side and the chin pointing to the contralateral side. Children with CMT can be subdivided into three clinical subgroups. Group 1 is the sternocleidomastoid tumor group, which consists of torticollis with a palpable pseudotumor or swelling in the body of SCM. Group 2, known as muscular torticollis, consists of torticollis with tightness of the SCM, but no palpable tumor. The last group, Group 3 (also known as POST), is a postural torticollis without a mass or tightness of the SCM. The diagnosis of congenital muscular torticollis is based on clinical palpation of firm fibrous band within the SCM muscle. Ultrasonography is the imaging modality of choice for the evaluation of Congenital muscular torticollis, which must be clearly differentiated from other congenital and acquired types of torticollis, such as congenital cervical vertebral anomalies, post-traumatic conditions, infections and inflammations of adjacent structures, tumours, ocular torticollis, hearing deficit and miscellaneous neurological structural and functional causes. Initial management of muscular torticollis in an infant is always conservative, and consists of exercises conducted by parents and physiotherapists two to four times per day. Infants who fail to respond to 3 months of physiotherapy. Surgical intervention may be recommended if this approach does not resolve the torticollis within one year. Various surgical procedures reported for management of CMT includes, unipolar SCM muscle lengthening, bipolar SCM muscle lengthening, Z lengthening or radical resection of the SCM. In our case, we performed a unipolar release of the sternocleidomastoid muscle associated with a dissection of the fibrosis which was largely separated from the healthy muscle and a resection of the fibrous part of the clavicular head. Postoperatively, the patient was put on torticollis braces and active physiotherapy regimen to prevent relapse and maintain the normal range of neck movement.

Conclusion

Findings of torticollis in their little one's may cause any

parent to become anxious hence it is of dire importance that the physicians especially paediatricians become aware of such entity and its management. If congenital muscular torticollis is seen in early infancy and resolve in most cases after a medical approach, some neglected cases can be rarely seen in adults and need surgical treatment.

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