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VARIOUS TREATMENT MODALITIES FOR MUSCULAR TORTICOLLIS

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Abstract : Abstract Purpose of Study To analyse the functional outcome of muscular torticollis treated with various modalities. METHODS A retrospective study of ten patients who had been treated with both conservative and surgical methods between 2014 and 2015 in ICH , Egmore. RESULTS All patients had a satisfactory functional and cosmetic result. CONCLUSION The treatment types can vary from non surgical to surgical method.

Keyword : Congenital muscular torticollis Treatment non surgical ,surgical.

Introduction:

Congenital Muscular Torticollis (CMT) is a congenital deformity characterized by unilateral shortening of the sternocleidomastoid muscle resulting in lateral inclination of the neck associated with contralateral torsion . The typical clinical element is a firm mass sized between 1 to 3 cm which causes shortening of the sternocleidomastoid and it is normally palpable at 1 to 4 weeks of age. Although this lesion has been considered as an hematoma formation, the presence of hemosiderin has not been revealed in pathological specimens of excised masses and additionally ultrasonography, and Computerized Tomography often record isoechoic or homogeneous findings. Most of cases resolve within the first year after birth. Nevertheless this firm still painless fibrotic tissue in severe cases subsequently results in secondary plagiocephaly and skull and facial asymmetry. It is a relatively common recognized infantile abnormality and its incidence varies from 0.3% to 2.0% live births . CMT is recorded as is the third most common congenital musculoskeletal anomaly after dislocation of the hip and clubfoot. CMT is often associated with other congenital deformities such as Developmental Dysplasia of the Hip (DDH) with a coexistence rate estimated as high as 14.9% . Other coincident lesions less frequently recorded include tibial torsion, clubfoot, calcaneovalgus foot, flexible pes planus, metatarsus adductus, and hallux valgus . Although evidence about CTM aetiology is vague it is postulated that fetal position abnormalities, intrauterine or perinatal compartment syndrome and birth trauma ensuing a difficult delivery embody the main causes .

Materials and methods.

A retrospective study of four patients who had treated with between 2014 and 2015 in our Institute of child health . The average age of the patients was 7 years (Range 5 to 9 years). The patients was followed up for minimum period of six months. We treated four cases of torticollis with unipolar, bipolar release of sternomastoid and one case with general anaesthesia which is spasmodic type of torticollis .

Surgical procedures used :

Unipolar release **:**

Patient was placed in the supine position . Endotracheal intubation was difficult because of stiffness and rigidity of neck. Head was rotated towards the uninvolved side and neck was hyperextended to achieve maximum stretch and tension of the affected SCM muscle. Transverse incision of 1 inch length was placed in the supraclavicular region. The subcutaneous tissue and platysma were divided to expose the sternoclavicular head of SCM. Sternal head & clavicular head were palpated for thick fibrous band. Blunt dissection was carried out around the insertion of SCM. Muscular fibrous band was detached from the clavicular end without disturbing the articular portion of the sternoclavicular joint. Transverse cervical artery spotted under the muscle was preserved. Betadine gauge placed inside the wound.

Bipolar release :

Two of the patients with advanced CMT underwent bipolar release. After the completion of excision of fibrous band at the sternocleido attachment excision of the mastoid attachment was carried out. Vertical incision was placed in the mastoid region. Blunt dissection was done to expose the elongated mastoid process. Mastoid process was found elongated due to muscle pull. Layered dissection was done to expose the SCM muscle. Few muscle fibres were released from the mastoid process.

Case 1

Pre op

Post op

Case 2
Pre op

Post treatment

Case 3
Pre op

Post GA

Case 4
Pre op

Post op

Results

All patients had a satisfactory result. One patient with torticollis was treated conservatively with medical management. One case of spasmodic torticollis after general anaesthesia got relieved .Remaining two cases of torticollis was treated surgically by bipolar and unipolar release of sternomastoid release. Functional outcome for surgical is based on Lee et all scoring

Points	Neck move-ments	Head tilt	Scar	Loss of column	Lateral band	Facial asymmetry
3	Full	None	Fine	None	None	None
2	<10° LOR or side flexion	Mild	Slight	Slight	Slight	Slight
1	10-25° or side flexion	Moderate	Moderate	Obvious but cosmeti-cally acceptable	Obvious but cosmeti-cally acceptable	Moderate
0	>25° LOR or side flexion	Severe	Unacceptable	Unacceptable	Unacceptable	Severe

Inference

17-18	Excellent
15-16	Good
13-14	Fair
<12	Poor

For one case score is 13 and for other case it is 15 .Result ranges from fair to good.

Discussion:

The etiology of CMT remains uncertain several theories have been suggested including intra-uterine mal positioning, trauma during difficult delivery, venous congestion and compartment syndrome in the SCM leading to fibrosis and hence the characteristic deformity. Patients with CMT can be classified into three clinical subgroups. Group 1 is the ones with SMC tumor, it consists of torticollis with a palpable pseudotumor in the body of SCM. This is a hard, movable mass within the substance of the SCM noted at birth, usually located in the middle to lower third of the sternal portion of SCM. The pseudotumor commonly increases in size after its first noted and then gradually resolves over a period of 05-21 months. This is the most common presentation and contributes to 28.2 to 47.2% of diagnosed cases of CMT in infants, Group 2, is muscular torticollis, consisting of torticollis with tightness of the SCM, but no palpable tumor. The last group, Group 3 is a postural torticollis without a mass or tightness of the SCM. It is imperative to differentiate CMT from other forms of congenital and acquired torticollis, this requires diligent workup including detailed physical examination and cervical spine radiographs. If diagnosed early on CMT responds very well to conservative treatment consisting of passive stretching of the muscle. Conservative treatment is the gold standard for CMT in patients below 01 year of age.

Surgical correction is recommended for late presentation or those in whom non-operative treatment is not successful.1,2Among the different surgical techniques the bipolar release of SCM is a commonly employed one. In comparison to traditional surgical techniques relatively new treatment modalities such as endoscopic release has been increasingly used in dealing with CMT. More recently Castro et al reported the use of harmonic scalpel for bipolar release of CMT in a 35 year old women. They reported good cosmetic and functional results. Two types of surgical procedures may be performed. The first is a surgical division of the SCM muscle and the other is the surgical resection of the spinal accessory nerve and/or the anterior and posterior divisions of the first three cervical motor roots.8 The surgical options for the affected sternocleidomastoid muscle include unipolar release at the sternoclavicular origin, bipolar open tenotomy bipolar release, transsection of the middle of the muscle, Z-plasties on the attachments of the sternal muscle, and complete excision of the muscle.3

Conclusion:

The functional & esthetic problems on the face & neck can have a lifelong impact on one's self esteem. Neglected case can be treated surgically. Otherwise physical theraphy is sufficient.

References:

1. Macdonald D. Sternomastoid tumour and muscular torticollis. J Bone Joint Surg Br. 1969; 51(3): 432-43.
2. . Canale ST, Griffin DW, Hubbard CN. Congenital muscular torticollis: A long term follow up. J Bone Joint Surg Am. 1982; 64(6): 810-16.
3. Pamela- stone McCoy et al : Reduction of congenital muscular torticollis in a four month old child with vertebral subluxation : A case report and Review of Literature J Vertebral Subluxation Res. Jan 7 2008

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