Neglected Torticollis: A Rare Pediatric Case Report

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ABSTRACT

Torticollis is commonly termed as “wry neck”. In torticollis, there is abnormal posturing of the head and neck due to the shortening of sternocleidomastoid muscle. Torticollis causes tipping of the head towards the shortened sternocleidomastoid which results in rotation of chin to the opposite side. It is a common disorder which can occur at all ages, from newborns to adults. It can develop prenatally (congenital) or postnatally (acquired). This case report highlights the various craniofacial features in a 5-year-old male patient presented with torticollis. During examination, patient had asymmetry of face, short and tight sternocleidomastoid which was band shape in affected site, spastic contralateral sternocleidomastoid and decreased range of motion of neck. Intraorally, patient had multiple carious tooth and macroglossic tongue. The craniofacial features play a significant role in the identification of torticollis and hence, can be helpful in early detection. It requires a multidisciplinary approach for its treatment.

Keywords: Craniofacial, Sternocleidomastoid, Torticollis, Wry neck.

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INTRODUCTION

The name torticollis comes from the two Latin words, “torus” which means twisted and “collum” means neck.¹ It is a deformity, characterized by lateral inclination of the head to the shoulder causing torsion of the neck and deviation of the face. It can be congenital or acquired. Torticollis is commonly termed as “wry neck”. In torticollis, there is abnormal posturing of the head and neck due to the shortening of sternocleidomastoid muscle. Torticollis causes tipping of the head towards the shortened sternocleidomastoid which results in rotation of chin to the opposite side.² It is a common disorder which can occur at all ages, from newborns to adults. It can develop prenatally (congenital) or postnatally (acquired). Craniofacial asymmetries are most commonly seen in congenital torticollis, but are rarely seen in acquired cases of torticollis. Different types of pathophysiologic processes can produce torticollis. These conditions range in severity from benign conditions like pharyngitis to serious conditions like retropharyngeal abscess or posterior fossa tumor.³ Torticollis can be classified as nonparoxysmal/nondynamic and paroxysmal/dynamic (Table 1).

In torticollis, the contracted sternocleidomastoid pulls the mastoid process towards the ipsilateral acromioclavicular joint which results in rotation of the chin towards the opposite shoulder. Along with this, varying degrees of neck flexion or extension can also result. The sternocleidomastoid takes origin from two rounded tendons, one from the medial third of the clavicle and the other the manubrium sterni. Shortly after their origin, the two tendons combine to form a single muscle bundle. This single muscle bundle runs in the neck to insert into superior nuchal line of the occipital bone and on to the ipsilateral mastoid process of the temporal bone.⁴ Simultaneous contraction of both sternocleidomastoids extends the head at the atlanto-occipital joint and flex the cervical vertebrae. The sternocleidomastoid is supplied mainly by the spinal accessory nerve (cranial nerve XI). The arterial supply is segmental; the upper third of the muscle is supplied by the occipital artery, the middle portion by the superior thyroid artery, and the lower portion by the superior thyroid, transverse scapular, and transverse cervical arteries. Any impairment these arteries or spinal accessory nerves can result in torticollis.⁵

Torticollis can lead to various maxillofacial complications and deformities. Mandible could be deviated to the lateral side and

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due to this deviation, mandible can be seen asymmetrically which results in permanent deformity and mandibular retrognathism. As a result, clinical manifestations of this entity are: deviated mandible, plagiocephaly, cranial base deformity, flat glenoid fossa, short neck of mandibular condyle, irregular condylar angle of mandible, round mandibular condyle, skeletal angle class II or III malocclusion, lateral crossbite. Other clinical manifestations include vertical orbital dystopia, decreased neck range of motion, superior oblique extraocular muscle contraction masticatory muscle spasm, adjacent tissue contracture and adhesion, facial asymmetry, head tilt, difficulty in chewing and dysphagia.

CASE DESCRIPTION

A 5-year-old boy reported in the department with chief complaint of facial asymmetry followed by decreased range of motion of neck and mastication. He had history of multiple episodes of seizures. Seizures were febrile in nature accompanied by fever. First episode occurred at the age of 6 months, recurring every 3 months. Patient had last episode 4 months back for which he is on anti-epileptic medication. After taking comprehensive history and physical examination, it was provisionally diagnosed as neglected case of torticollis. During physical examination, patient had asymmetry of face, short and tight sternocleidomastoid which was band

shape in affected site, spastic contralateral sternocleidomastoid and decreased range of motion of neck (Figs 1 and 2). The shape of the head was asymmetric and slight deviation of the mandible to the left side was present. He had multiple carious tooth and macroglossia tongue (Figs 3 and 4). Carious lesions were present on 54, 53, 63, 64, 65, 71 and 81. 52, 51, 61, 62 were grossly carious.

Behavior management techniques were integral part of the treatment planning as the patient was very uncooperative. Moreover, due to the abnormal positioning of the neck, proper vision of the oral cavity was not possible. The operator's position

was adjusted according to the positioning of the patient in order to obtain direct vision to oral cavity. Moreover, neck pillow was placed behind the neck for support and relaxation and to prevent flexion of the neck. Restorations were done on carious teeth (Figs 5 and 6) and patient was chosen for bipolar release surgery of sternocleidomastoid.

DISCUSSION

Wry neck or Loxia is a fixed or dynamic tilt, rotation or flexion of head and neck. It is the third most common musculoskeletal anomaly that affects children especially in right side. The reported incidence varies between 0.4 and 1.9% and there appears to be male predominance with a relative ratio of 3:2.⁶ Physical examination and standard radiographs are sufficient for the diagnosis of muscular torticollis and for treatment planning. The most common complaint is restricted range of motion of neck with compensatory cervical and thoracic scoliosis. Since there are various pathologic entities of the head and neck which may mimic a positional tilt similar to muscular torticollis, those pathologic factors also should be considered. Even in adult neglected torticollis, surgery can improve some maxillofacial complication like asymmetry and temporomandibular disorder. Decreased neck range of motion makes problematic situation so that most of the patients are not aware of their maxillofacial and occlusal problem. Arghavan and Babak reported an untreated case of torticollis in which a 24-year-old girl suffered from congenital torticollis.⁷ She had asymmetry in her face and maxillofacial complex and had cross bite and posterior open bite which occurred due to delayed treatment of torticollis. They also reported by another study in which a 19-year-old female patient with congenital torticollis showed a little posterior cross bite, pain in her left ear which can be defined by clicking and pain in temporomandibular joint. Extraoral examination showed asymmetry of face, short and tight sternocleidomastoid (band shape) in affected site, spastic contralateral sternocleidomastoid, decreased range of motion were detected without severe occlusion differences. Mohan reported an untreated case of unilateral torticollis in a 19-year-old girl.⁸ Her maxillofacial region showed inclination of head to right side, raised chin, face rotated to the opposite direction of tilt and facial asymmetry (plagiocephaly) due to right cranio-orbito-zygomatic flattening and deviated nasal septum to the right. Her dental occlusion revealed slight shift in the dental lower midline to the right with angles class I molar

Table 1: Classification of torticollis

<i>Nonparoxysmal (nondynamic) torticollis</i>	<i>Paroxysmal (dynamic) torticollis</i>
<ul style="list-style-type: none"> • Congenital muscular torticollis <ul style="list-style-type: none"> Intrauterine constraint Birth trauma • Osseous torticollis <ul style="list-style-type: none"> Congenital Traumatic Inflammatory • Central nervous system/ peripheral nervous system torticollis <ul style="list-style-type: none"> Brain <ul style="list-style-type: none"> Posterior fossa Basal ganglia Spinal cord Spinal nerve root/peripheral nerve • Ocular torticollis <ul style="list-style-type: none"> Superior oblique muscle palsy Other ocular deviations Spasmus nutans • Nonmuscular, soft tissue torticollis <ul style="list-style-type: none"> Infectious 	<ul style="list-style-type: none"> • Benign paroxysmal torticollis • Spasmodic (cervical dystonia) <ul style="list-style-type: none"> Primary Secondary • Sandifer syndrome • Drug-induced torticollis • Torticollis from increased intracranial pressure • Torticollis as a conversion disorder

Fig. 1: Face showing asymmetry

Fig. 2: Posture showing flexion of neck with asymmetry

Fig. 3: Occlusal cavity showing macroglossia

Fig. 4: Frontal view showing multiple carious teeth

Fig. 5: Maxillary arch preoperative and postoperative

Fig. 6: Mandibular arch preoperative and postoperative

relation bilaterally. Range of motion of the cervical region (neck rotation and lateral flexion) was deficit along with short, tight, firm and fibrous nontender right sternocleidomastoid muscle.

Generally, in torticollis, the common features observed are ptosis of the eyelids, webbing of the neck and maxilla, micrognathia, cleft palate, congenital contractures of the limb, scoliosis and

malignant hyperthermia. Most of the patients suffer from migraine, temporomandibular joint weakness and tenderness, dizziness, tinnitus and masticatory muscles complications. Posterior and anterior cross bites are more common in such patients. But in this case, occlusal abnormalities were not seen because the problem was identified at an early stage.

For the treatment of these specific problems two approaches are presently available and they are surgical lengthening of the muscle and more conservatively a stretching schedule to lengthen the muscle. Surgical options for the affected sternocleidomastoid muscle include unipolar release at the sternoclavicular origin, bipolar open tenotomy, bipolar release, transection of the middle of the muscle, Z-plasties on the attachments of the sternal muscle, and complete excision of the muscle.

CONCLUSION

Torticollis surgery can improve some maxillofacial complication like asymmetry and temporomandibular disorder. The results are much better if the surgery is performed at an early stage. Pediatric dentists can identify such cases at an early stage and can be advised for further treatment. Our case was a neglected case of torticollis. The parents were ignorant in spite of child clearly showing difficulty in neck positioning and deviated mandible. Due to their personal circumstances, they couldn't provide proper treatment to the child at the right time. So, we as pediatric dentists can do family counseling and can convey them about required treatment and medical references at an early stage. Moreover pediatric dentists

can create awareness among general public regarding this type of problems and can also increase the knowledge of fellow dentists. Pediatric case reports of torticollis are less reported in literature, so that there is lack of information regarding this condition. Reporting of this type of rare cases is also very important so that other dentists will also be benefitted.

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