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Cervical Dystonia-Torticollis

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ABSTRACT

Dystonia is a chronic disorder characterised by an aberration in the control of movement. Sustained co-contraction of opposing agonist and antagonist muscles can cause repetitive and twisting movements, or abnormal postures. Cervical dystonia (CD), often referred to as spasmodic torticollis, is a type of focal dystonia involving the muscles of the neck and sometimes the shoulders. It is a relatively rare neurologic disorder. This condition frequently results in cervical pain and disability as well as impairments affecting postural control. This article reviews the etiology and pathophysiology of the disease as well as medical and physical therapist management for people with cervical dystonia.

INTRODUCTION

A deformity, congenital or acquired, characterized by lateral inclination of the head to the shoulder, with torsion of the neck and deviation of the face. Torticollis is derived from Latin words “tortus” for twisted and “collum” for neck, means a twisted neck. It is otherwise called as wry neck, which is a dystonic condition defined by an abnormal, asymmetrical head or neck position. It can be termed as spasm of sternocleidomastoid muscle causing turning or tipping of head as acquired or congenital (Fig.1). This occurs as a result of spasm or contracture of the muscles supplied by spinal accessory nerve i.e., sternocleidomastoid and trapezius. These have names such as horizontal torticollis, vertical, oblique, or torsion.[1]Spasms of the sternocleidomastoid, trapezius, and other neck muscles, usually more prominent on one side than the other, cause turning or tipping of the head. [2][3] Treatment plans may depend on the aetiology factors. In minor cases a pharmacological approach is done but in severe chronic cases a surgical intervention is necessary.

Fig. 1 spasm of sternocleidomastoid muscle causing turning or tipping of head as acquired or congenital

CERVICAL ANATOMY:

The muscles of the neck form a complex system. Schematically, two levels are distinguished: superficial (long neck muscles) and deep (paravertebral muscles). The sternocleidomastoid is the most targeted muscle. It is in the anterior region of the neck, where it forms a visible and palpable mass. It origin is from the medial 1/3 of clavicle and manubrium sterni and get inserted into the lateral surface of the mastoid process of temporal bone. The muscle fibers are directed obliquely upward and outward direction. The action of the sternocleidomastoid is to perform contra lateral rotation, ipsilateral inclination, and flexion of the head. Other muscles of the region involved in torticollis include the splenius, the trapezius, the scapula, the scalenes, and the platysma.[4][5][6]

CLASSFFICATION:

Torticollis can be classified into Congenital and Acquired.

(I) Congenital Torticollis is a rare deformity. The congenital group divided into two groups. In the first group appears at, or soon after birth, no sternomastoid tumour occurs and operative treatment is never required is called postural torticollis. In the second group the deformity appears some time after birth, is often associated with a sternomastoid tumour, and operation is not infrequently necessary is called muscular torticollis.

(II) Acquired Torticollis can be classified into:

(a) Skeletal disorders

(b) Neurological and psychological disorders

PATHOPHYSIOLOGY:

1.CONGENITAL TORTICOLLIS

Congenital muscular torticollis is rare (< 2%) and is believed to be caused by local trauma to the soft tissues of the neck just before or during delivery. [7] The most common explanation involves birth trauma to the sternocleidomastoid (SCM) muscle, resulting in fibrosis or that intrauterine malpositioning leads to unilateral shortening of the SCM. [7] There may be resultant hematoma formation followed by muscular contracture. These children often have undergone breech or difficult forceps delivery.

2. ACQUIRED TORTICOLLIS

The pathophysiology of acquired torticollis depends on the underlying disease process. Cervical muscle spasm causing torticollis can result from any injury or inflammation of the cervical muscles or cranial nerves from different disease processes.Acute torticollis can be the result of blunt trauma to head and neck, or from simply sleeping in an awkward position. Acute torticollis may be self-limited in days to weeks or the result of idiosyncrasy to certain medications (eg, traditional dopamine receptor blockers, metoclopramide, phenytoin, or carbamazepine.) After stopping medication, it quickly resolves without further action. After the resolution of acute traumatic torticollis, a chronic or persistent form may reappear after days or weeks of a quiescent interval. This situation often has legal implications regarding liability associated with the acute traumatic incident [8].

ETIOLOGY:

In adults, acute wryneck is the most prevalent type of torticollis and develops overnight without provocation. It is self-limited, and symptoms resolve in 1-2 weeks.Any abnormality or trauma of the cervical spine can present with torticollis. Trauma, including minor trauma (sprains/strains), fractures, dislocations, and subluxations, often result in spasms of cervical musculature.Upper respiratory and soft-tissue infections of the neck can cause an inflammatory torticollis secondary to muscle contracture or adenitis. Torticollis has been associated with retropharyngeal abscess and is important to consider, because it is potentially life-threatening [9][10].

CLINICAL PRESENTATION:

Torticollis is posttraumatic 10 to 20% of the time; the remainder is idiopathic. The onset of posttraumatic cervical dystonia is usually within days of injury and 3 to 12 months after injury in the delayed form.Torticollis is usually a mixture of movements. Torticollis, with some element of rotation, is the most common type. After rotational torticollis, comes laterocollis, then retrocollis, with anterocollis being the rarest type.There is a female to male predilection of 2 to 1. The onset of idiopathic cervical dystonia typically occurs in the 30 to 50 year age group. Congenital muscular torticollis is present in less than 0.4% of newborns. [11][12]

DIFFERENTIAL DIAGNOSIS:

- Essential tremor
- Myasthenia gravis
- Multiple sclerosis
- Neuroleptic agent toxicity
- Parkinson disease
- Peritonsillar abscess
- Rehabilitation and cerebral palsy
- Retropharyngeal abscess

TREATMENT:

At present, there is no specific treatment to treat cervical dystonias. To minimize and relieve symptoms, pharmacological treatment options include benzodiazepines (treatment of anxiety and spasms), muscle relaxants (muscle relaxant), and anticholinergics (counteracting acetylcholine, a neurotransmitter in the nervous system). Another option is botulinum toxin injection.[13] Some etiologies of torticollis require corrective surgery.

Physiotherapy and osteopathy are options for conservative treatment. [14] Physiotherapy plays an essential role in treating the vast majority of different forms and etiologies of torticollis.

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