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Case Report

Case Report Sternocleidomastoid Tumor of Neonate

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Abstract: Sternocleidomastoid tumor of infancy is a rare cause of a benign, firm, fibrous neck mass in neonates and infants. The term Sternocleidomastoid tumor is a misnomer as it is not a tumor but a muscle fibrosis. It most commonly involves the middle or inferior third of Sternocleidomastoid muscle. The lump is present within the Sternocleidomastoid muscle, which joins the base of skull to collarbone. If diagnosed early and correctly, it can be managed conservatively without unnecessary investigations. This affects the infant in first few weeks of life. In some babies, the muscle is shorter to one side so the baby lays their head tilted and rotated to their side. The child usually presents with visible or palpable swelling on lateral aspect of neck and the mass being 1-3 cm in diameter.
Keywords: Fibromatosis Colli, Pseudo tumor of infancy.

INTRODUCTION

It is a condition in which there is a diffuse enlargement of Sternocleidomastoid muscle, usually in infancy [1]. The etiology is unknown, though many postulates have been presented as to the exact etiology of Sternocleidomastoid tumor of infancy. It is most likely due to birth trauma, and in primipara and infant born with prolonged or difficult labour [2]. There is found to be higher incidence of breech delivery (20-30 %) than normal vaginal delivery. In infant, tumor is hard and in older children, tumor is less discreet than it is in the young. It is seen that the child prefers to look in a particular direction, which tends to be the opposite side of lump, known as preferential head turn or torticollis as the Sternocleidomastoid muscle appears thickened and foreshortened along its entire length. This thickness will restrict the rotation and lateral flexion of neck. Baby with Torticollis or a Sternocleidomastoid tumor of infancy is a risk of developing positional plagiocephaly which is a deformity in which one side of head does not match up with the other side. Torticollis occurs in 0.4% of all live births and is self-resolving in 80-90% cases up to one year [3], but, the tumor and Sternocleidomastoid shortening still persists beyond 12 months of age in 10 % cases. Though USG is the radiological investigation of choice, but, cross-sectional imaging with CT scan or MRI may be required to know the extent of involvement. USG confirms the diagnosis by showing fusiform swelling involving Sternocleidomastoid muscle.

We present a case-report where Sternocleidomastoid tumor was diagnosed using USG.

CASE REPORT

A 1-month old child was referred to the E.N.T Department with a neck swelling on right Sternocleidomastoid muscle, which was noticed by the parents 15 days back. The swelling was firm to hard in consistency with no local rise in temperature and no other signs of inflammation were present. The swelling was not painful and mobile in nature. Parents reported that the child prefers his neck tp be kept on the opposite side of swelling. Patient was a febrile. The parents reported that the delivery was a normal vaginal; full-term delivery with no history of trauma and the child delivered was healthy weighing 2.5 Kg. USG showed a small focal fusiform swelling measuring 19 x 15 mm in the neck involving right Sternocleidomastoid muscle. It showed fibrillar heterogenous echo texture. Few Lymph Nodes measuring 3-5mm in short axis along Sternocleidomastoid muscle were seen. Left Sternocleidomastoid muscle shows normal symmetrical thickness of 5-6mm. Based on these USG features and clinical findings, a diagnosis of Fibromatosis Colli (Sternocleidomastoid tumor of infancy) was considered.

DISCUSSION

Most-commonly, its presentation is a neck swelling at 2-4 weeks of birth. As stated above, the etiology is not fully known, but several theories have been postulated. These includes:-

a. Idiopathic Intra-uterine embryopathy.
b. Sternocleidomastoid Compartment Syndrome due to Intra-uterine positional disorder.

c. Familial transmission of congenital muscular torticollis.
d. History of breech presentation at birth (20-30%) with complicated birth (60%) leads to Sternocleidomastoid torticollis.
e. Obliteration of end-arterial branch of Superior thyroid artery supplying middle part of Sternocleidomastoid might be responsible for development of muscle fibrosis.

Diagnosis can be made by USG showing spindle shaped thickening of Sternocleidomastoid muscle on affected side. Bilateral Sternocleidomastoid tumor of infancy, though extremely rare, has also been seen [4]. Treatment is symptomatic along with Physiotherapy and neck-stretching exercises. With treatment, the muscle will grow and stretch; but if left untreated the condition may cause a permanent limitation of the baby's neck movement that may need surgery.It has been seen that the swelling reduces over a period of time, with complete resolution by 4-6 months. The differential diagnosis of these painless, solid tumors include Rhabdomyosarcoma, Neuroblastoma, Thyroglossal Cyst, Cervical Vascular malformation, Ectopic thyroid tissue, Cervical teratoma, Burkitt Lymphoma in which the additional factors differentiating it from Fibromatosis Colli are the enlarged Cervical Lymph Nodes, Vascular involvement and invasion of surrounding structures [6,7]. Though, USG gives us a complete correct diagnosis, CT scan and MRI features have also been seen to contribute. CT scan typically shows a diffusely enlarged Sternocleidomastoid that is attenuating to normal neighboring musculature. Adjacent fat planes are well preserved. At times, calcification may be present. MRI shows decreased signal intensity of mass on T2W images due to presence of fibrous tissue [5]. Extent of involves muscle is better seen with MRI than USG. Cytologically, oval to spindle shaped fibroblastic cells scattered singly or in loose cohesive clusters and seen with wispy cytoplasm.

CONCLUSION

The formation of Sternocleidomastoid tumor should alert the physician and the patient A prompt USG neck and initiation of Physiotherapy and neck exercises should be done for early resolution and to prevent surgical management.The exact mechanism ofSternocleidomastoidtumor is difficult to ascertain. To conclude, Fibromatosis Colli is a rare cause of solid tumors of neck in neonates and infants to differentiate it from other neck masses. Regular follow up is required.

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