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Case Report

Bilateral sternocleidomastoid tumor of infancy: a rare diagnostic dilemma

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ABSTRACT

Sternocleidomastoid tumor of infancy (STOI) is a common cause of neck mass in the neonatal period. However, STOIs presenting bilaterally is a rare finding in medical literature. We herein report an unusual case of a bilateral STOI in a five-week infant. The child was given physical therapy which consisted of active and passive physical exercises, warm compresses and massage. Within 10 weeks the swellings reduced considerably in size. Bilateral, firm masses are often confused with lymphadenopathy and are inadvertently treated with antibiotics. Hence, STOI should be kept as an important differential diagnosis for neck mass in the neonatal period.

Keywords: Bilateral, Sternocleidomastoid tumor, Torticollis, Neck mass in neonates, Benign neck tumors

INTRODUCTION

Sternocleidomastoid tumor of infancy (STOI) is a common cause of neck mass in the neonatal period with an incidence of 0.4% live births.[1] Occasionally, it presents as torticollis and/or craniofacial asymmetry. Bilateral sternocleidomastoid tumor is an uncommon condition with the incidence of 2% to 8%.[2] The initial treatment consists of physical therapy, massage and heat. We present a case of bilateral STOI and its etiopathogenesis, diagnosis and management are discussed.

CASE REPORT

A five week old infant presented to our outpatient department with two lower neck swellings. They were noted since 3 weeks by the mother. History revealed an uneventful childbirth with full term normal vaginal delivery. There was no history of fever or feeding or breathing difficulty. Clinical examination demonstrated two masses of 1.5×1.5 cm and 1×1 cm respectively on the left and right sides. They were present in the region of lower one third of sternocleidomastoid muscle bilaterally (Figure 1). The masses were firm in consistency having well defined margins, non tender with healthy overlying skin. They were mobile in the horizontal plane while showing fixity along the vertical plane. There was no associated torticollis or craniofacial asymmetry. Oropharyngeal examination did not reveal any intraoral bulge. Rest of local and systemic examination were normal.

A provisional diagnosis of bilateral sternocleidomastoid tumor was made and confirmed on computed tomography. Contrast-enhanced computed tomography (CECT) showed bilateral sternocleidomastoid muscles to be diffusely bulky, predominantly involving muscle bellies, with homogenous attenuation and enhancement, is odense to adjacent musculature. Maximum transverse diameter was 14 mm on right side and 16 mm on left side.

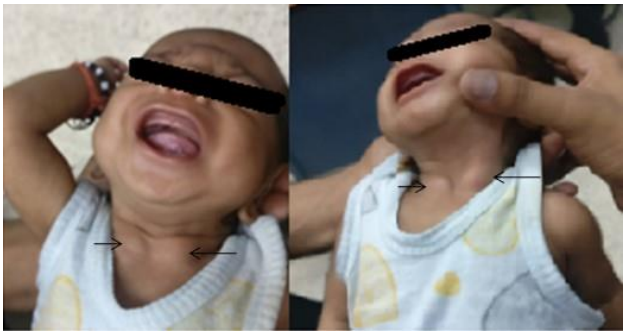

Figure 1: Bilateral neck masses (arrows) in the neck.

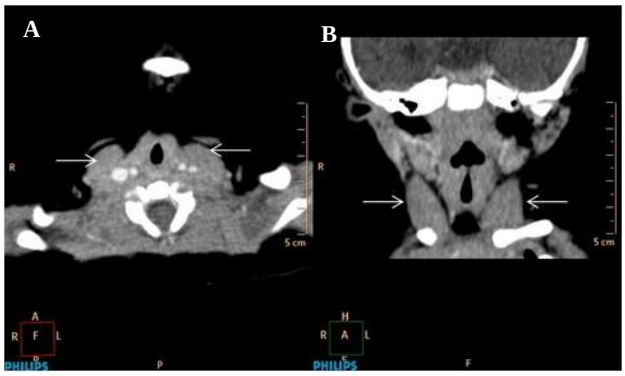

Figure 2: CECT neck; (A) axial section showing bilateral neck masses and (B) coronal section showing spindle shaped bilateral masses in the sternocleidomastoid muscle.

Fine needle aspiration cytology was not carried out considering the invasive nature of the investigation for the infant. The child was given physical therapy which consisted of active and passive physical exercises, warm compresses and massage. On follow up after a month of initiation of treatment both the masses were found to have reduced in size.

DISCUSSION

Bilateral sternocleidomastoid tumor is an uncommon condition with an incidence of 2% to 8%. It is also known as fibromatosis coli and pseudotumor of infancy. Patients usually present 1 to 8 weeks after birth with a neck swelling.[3] On examination it is usually fusiform in shape, firm in consistency, non-tender and has well defined margins. STOI may increase in size for several weeks after which it stabilizes for a few months and finally diminishes spontaneously by 4 to 8 months of life.[4] It is usually misdiagnosed with bilateral lymphadenopathy and patients are mistreated using antibiotics. In a study of 84 cases, Ling observed that STOI disappears at an average age of 7 months with complete resolution in 77% of children.[5] Etiology is known to be hereditary, neurogenic, infectious, congenital, birth trauma, ischemia and intrauterine malposition.[6] There is well recognized association between STOI and primiparous birth, breeched presentation, forceps delivery and difficult labor.[7] Any injury to the sternocleidomastoid muscle due the above causes is eventually replaced by fibrous tissue resulting in an STOI.

The diagnosis can often be made by clinical history and physical examination. In case of bilateral STOI, it reveals a shortened neck, elevated chin and an upward tilt of the face as both sternocleidomastoids are affected. CT scan and ultrasonography can locate the tumor in the body of sternocleidomastoid muscle and determine the consistency.

Histopathological examination of STOI usually shows diffuse proliferation of uniform, plum bland looking fibroblasts and myofibroblasts with deposition of scar like collagen in the muscle with entrapped reactive and degenerating skeletal muscle fibers which undergo atrophy.

STOI usually resolves with conservative management.[8] Initial treatment includes physiotherapy leading to resolution of the swelling in 70% of the cases. The neck is flexed away from the lesion and chin rotated towards the affected side in both flexion and extension. Child's head should be positioned in such away that the affected muscle is stretched. The child should be reevaluated every 2 to 4 weeks. Surgical intervention is required in those cases where the contraction of the muscle persists till one year of age or for those who develop craniofacial anomalies. Surgical procedures practiced are tenotomy, muscle lengthening and excision of the muscle.

CONCLUSION

STOI is a common cause of neck mass in the neonatal period. However, STOIs presenting bilaterally is a rare finding in medical literature. They are often misdiagnosed as lymphadenopathy and treated with antibiotics. Hence, a correct diagnosis is important to appropriately treat them with physiotherapy.

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