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Radiology

ULTRASONOGRAPHIC FINDINGS OF LEFT SIDED FIBROMATOSIS COLLI : A RARE ENTITY

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ABSTRACT Fibromatosis colli or sternocleidomastoid tumor of infancy is a rare condition of benign proliferation of fibrous tissues within the sternocleidomastoid muscle leading to focal or diffuse enlargement of the muscle. It is a benign, self resolving tumor and most commonly present on the right side (75% of the cases). A history of traumatic breech or forceps delivery is frequent. We report a case of a 6 weeks old male infant with left sided fibromatosis colli without any history of traumatic breech or forceps delivery.

KEYWORDS : Left sided fibromatosis colli, Fibromatosis colli, Sternocleidomastoid tumor of infancy, Traumatic forceps delivery.

INTRODUCTION :

Fibromatosis colli (FC) also known as sternocleidomastoid (SCM) tumor of infancy, is an uncommon benign lesion of the spindle cells of the spindle cells of the SCM muscle , resulting in diffuse or focal enlargement of the muscle. The term tumor is a misnomer here, because it is not a cancerous condition, but it is referred to as a fibrotic process. Although the exact etiology is not known, it is mostly associated with a traumatic breech or forceps delivery. FC has a prevalence of 0.4%[1] with slightly male dominance. It is not present at birth, but tends to appear between 2nd to 4th weeks of life. Patient presents with a anterior neck mass which is firm, partially mobile, painless. It is associated with torticollis in 20% of the cases with head slightly tilted to the ipsilateral side. The lesion frequently regresses over 4-8 months with physiotherapy.

Ultrasonography (USG) is the imaging modality of choice[2] and it has a sensitivity of 100%. Computed tomography (CT) , Magnetic resonance imaging (MRI) is sometimes required for better evaluation of the extent of the lesion. In this article , we describe the USG findings of this disease in order to facilitate its recognition and to avoid more expensive and invasive methods for diagnosis.

CASE REPORT :

A 6 weeks old male infant was referred to the Dept. of Radiodiagnosis & imaging, Burdwan medical college & hospital for ultrasound evaluation of a left sided anterior neck swelling. The swelling was noticed by the mother about 1 week back and she also noticed restricted neck movements to the affected side (left side) and tilting of the neck to the left side. On clinical examination, the swelling is about 2-2.5 cm in size , firm in consistency and was not warm to touch. Otherwise, the baby is healthy without any other complaints. A detailed history is taken the mother which revealed the baby was full term (39th weeks of gestation). There was no history of difficulty in labour or forceps application.

The baby is the first born child of healthy nonconsanguineous parents. The mother denied of having infectious disease during pregnancy or taking alcohol or drugs. The swelling was not present at birth. The mother noticed the swelling about 1 week ago, when the baby was about 5 weeks of age.

A detailed examination of neck structures was done using high resolution linear array ultrasound probe. It revealed a fusiform shaped mass in the lower part of the left SCM muscle which appears isochoic to the rest of the muscle. It had a fusiform appearance and heterogenous echotexture and maintained fibrillary structures of the muscle fibers of the left SCM muscle **(FIG. 1)**. No evidence of raised vascularity or focal calcification seen in the fusiform mass. There was no cervical lymphadenopathy. Thyroid glands, submandibular glands, vascular structures and other structures of the neck are within normal limit. Based on the USG & clinical findings, a diagnosis of left sided fibromatosis colli was considered, which is a relatively rare side in a rare disease. Physiotherapy was started and after 4 weeks the patient came for follow up USG which showed marked decrease of the swelling with neck movements returning to the near normal.

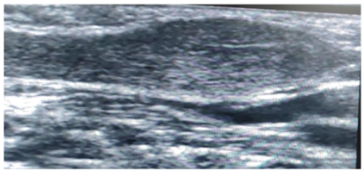

FIG. 1: LOWER PART OF LEFT STERNOCLEIDOMASTOID MUSCLE SHOWING FUSIFORM ENLARGEMENT WITH HETEROGENOUS ECHOTEXTURE AND MAINTAINED FIBRILLARY PATTERN (LEFT SIDED FIBROMATOSIS COLLI)

DISCUSSION :

FC is a rare benign fusiform mass arising from SCM muscle mainly involving middle and lower part. It has a slight male predominance and 75% of the cases seen on the right side. The etiology is unknown. However, traumatic breech delivery, forceps use etc. has been mostly associated with it. The infants are otherwise healthy. The neck mass usually arises approximately 2-4 weeks after birth and about 20% of the cases are associated with torticollis. The mass may continue to increase in size for 2-4 weeks. USG is the imaging modality of choice. CT , MRI is better for knowing the extent of the disease.

On sonography, focal or diffuse enlargement of the SCM muscle is present usually in a fusiform configuration and mainly present in the lower 2/3 of the muscle.

The mass moves synchronously with the SCM muscle. The echogenicity of the mass may be hyperechoic (49%) , isoechoic or hypoechoic relative to the rest of the muscle. The echotexture may be homogenous (51%) or heterogenous (49%). The mass is surrounded by a hypoechoic rim in 90% cases which may represent remaining normal peripheral muscle. Margin of the mass are usually well defined, better seen in transverse images.

CT imaging demonstates focal or diffuse isodense enlargement of SCM muscle[3] with normal surrounding fascial planes. The mass may cause deviation of surrounding structures , such as trachea, neck vessels, but not encasement or significant compression.

MRI features includes decreased signal intensity of the mass on T2 weighted images as compared to Gradient recalled T1 weighted images, because of the presence of fibrous tissues[4].

The cytological features include bland appearing firboblasts and atrophic skeletal muscle , along with muscle giant cells and bare nuclei[5] .

However, USG alone combined with proper history and clinical examination should be enough for making the diagnosis of FC. USG being cost effective along with non-ionizing is the modality of choice and prevents further costly and invasive investigation and reduces parents anxiety. FC resolves over time with physiotherapy only. Therefore no such treatment apart from physiotherapy is needed if correct diagnosis is made.

In addition to FC, other differential diagnosis of soft tissue masses in

the neck of a infant includes neuroblastoma, rhabdomyosarcoma, lymphoma, cystic hygroma, branchial cleft cyst etc. If the lesion extends beyond the SCM muscle, presence of irregular margin, calcification, vascular encasements, invasion of surrounding structures is seen ; then other possibilities apart from FC are considered.

CONCLUSION :

FC is a rare benign , self resolving tumor of SCM muscle in infants. USG is the imaging modality of choice for diagnosis. In most cases CT, MRI, FNAC, histological examination are not necessary. Radiologists must be aware of its imaging features to diagnose it correctly and to differentiate it from other neck mass.

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