University Journal of Medicine and Medical Specialities

ISSN 2455- 2852 2019 , Vol. 5(4)

A RARE CONGENITAL PAEDIATRIC NECK SWELLING

SIVAKUMAR K
Department of Radio Diagnosis,MADRAS MEDICAL COLLEGE AND GOVERNMENT GENERAL HOSPITAL

Abstract : Cervical thymic cyst is an uncommon pathology encountered in childrens . Our case is a male child with a left side cervical swelling . On USG it appeared as echogenic cystic lesion in the anterior triangle of the neck. On CECT non enhancing hypodense cystic lesion was seen extending from the angle of mandible to anterior mediastinum. It was totally resected and histopathological analysis revealed a thymic cyst. The diagnosis of thymic cyst is not possible prior to histological examination. Therefore, in children cervical thymic cyst should be considered as a differential diagnosis in each cervical soft tissue swelling.

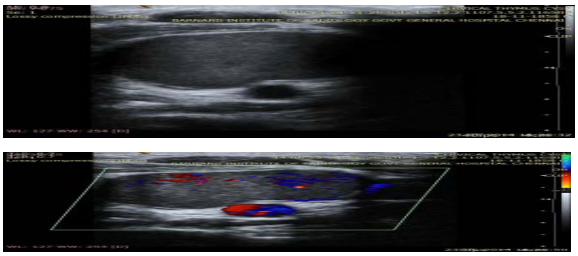
Keyword : Cervical thymic cyst, congenital neck swelling, Hassal corpuscle,mediastinum.

A **RARE CONGENITAL PAEDIATRIC NECK SWELLING**

History : A 8 year old male child came with complaints of diffuse swelling over the left side of the neck for the past three months . No other specific complaints. Clinically patient referred as vascular lesion / laryngocele for imaging .

On USG: Cystic lesion with moving echogenic content noted in the left side of the neck. Lesion lies deep to the sternocleidomastoid muscle in the carotid space . Lesion was seen extending superiorly from just below the angle of mandible inferiorly in to the thorax.

Fig 1.a. Fig 1.b.



NM

ON CECT

Hypodense (HU10-15) elongated cystic lesion of size approximately 13x5x3cm in the left side of the neck in the carotid space .Lesion extending superiorly from the angle of mandible inferiorly upto the superior and anterior mediastinum .No evidence of invasion of the vessels or mediastinal structures. It does not show enhancement on contrast

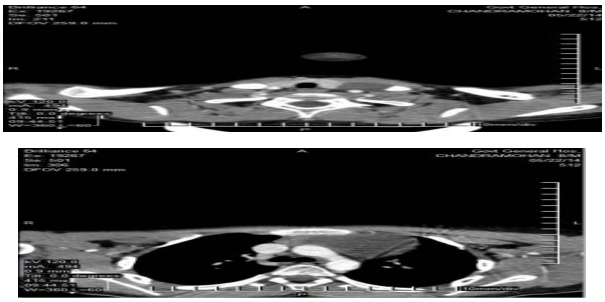


FIG2.a.Hypodense (HU10-15) elongated cystic lesion of size approximately 13x5x3cm in the left side of the neck in the carotid space .

FIG2. b.Extension of the lesion in to the anterior mediastinumNo evidence invasion of the vessels or mediastinal structures

Diagnosis given as Cervical Thymic Cyst. other Differential Diagnosis considered where :

1. Branchial cyst
2. Lymphangioma

HISTOPATHOLOGY : HPE REVEALED THE LESION AS BENIGN THYMIC CYST.

FIG 3.a FIG 3.b

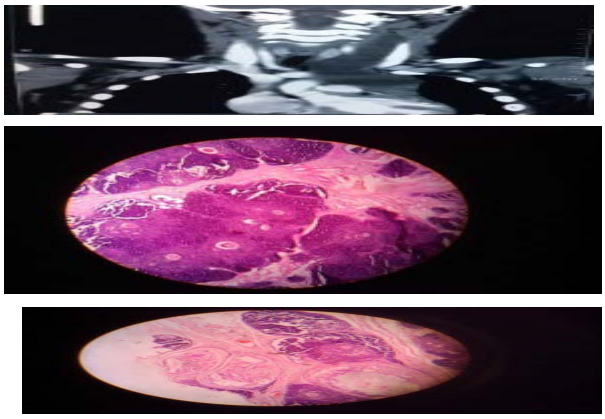


FIG 3.a.Histo pathology of the lesion shows normal thymic tissue in the wall of the cyst,with hassel corpuscle FIG 3.b.HPE shows cholesterol crystals and esinophilic material (Benign Thymic Cyst.)
It is Located in close association with carotid sheath between the internal jugular vein and carotid vessels which may extends into mediastinum. Thymic cyst may occur in the lateral neck,anterior or deep to the sternocleidomastoid muscle, and as such, it may be clinically similar to a branchial cyst5. It also may occur as a mass in relationship to the piriform sinus.

EMBRYOLOGY:

The normal development of the thymus, a third pouch Derivative. Several anomalies of the thymus are attributed to abnormal embryologic descent of the thymic primordium into the mediastinum. These anomalies can result from incomplete descent of the thymus into the chest, sequestration of thymic tissue being retained along the normal thymic pathway during descent, or failure of involution of the thymopharyngeal duct. Thymic tissue may be associated with an epithelial tract that communicates with the pharynx through the thyro hyoid membrane or it may maintain a connection with the thymus gland in the mediastinum. Two theories were explained in the pathogenesis of aberrantly located thymic cysts.One theory suggests that the cysts result from acquired progressive cystic degeneration of epithelial remnants or Hassall corpuscles. Histologically, there are Hassall corpuscles in a thymic cyst wall2,3,4. The other theory states that the cysts represent persistence of portions of the thymo pharyngeal duct and, uncommonly, a cyst may occur that extends from the upper neck caudally into the lower neck or even to the anterior mediastinum. Such cysts are referred to as thymo pharyngeal cysts, presumably following the course of a nonresorbed thymopharyngeal duct.

Pathology:

Thymic cysts are diagnosed by the presence of thymic tissue in the wall of the cyst on histologic examination with cyst may show septation with variable content (serous , cholesterol)9. Cyst content may be clear , serous or brownish fluid.

IMAGING:

USG: cystic lesion in the anterior triangle of the neck posterior to the sternocledomastioid muscle , medial to Internal jugular vein ,anterior to the carotid vessels . Extension of the cyst superiorly from angle of mandible inferiorly in to the thoracic cavity.

CECT: Elongated hypodense (HU 10-15) lesion in the anterior triangle of the neck without any contrast enhancement in the vicinity of carotid sheath .Cyst may show septations . It extends from angle of mandible inferiorly upto the superior and anterior mediastinum . Lesion does not cause invasion of adjacent structures. \

MRI: It shows variable signal On T1W imaging depending on the content of the cystic lesion & hyperintense on T2WI .

DIFFERENTIAL DIAGNOSIS [2,3,4,5,8]:

1. **Branchial cyst** :Located superficial and lateral to internal jugular vein and carotid artery
2. **Lymphangioma**: Mostly Located in the posterior triangle of the neck .

Treatment:

Surgical excision is the treatment of choice[5].

Conclusion:

The diagnosis of thymic cyst is not possible prior to histological examination. Therefore, in children the disorder should be considered as a differential diagnosis of each cervical swelling .

References :

1. Heise YY, Hsue 1. S, Lin JN, et al. Pathologicalanalysis of congenital cervical cysts in children:20 years of experience at Chang Gung Memorial Hospital. *Chang Guang Med* 2003; 26: 107-13.
2. Cervical thymic cyst, a case report and review of the literature . mohammed soaney et al. JRMS 2006; 11(5): 339-342
3. Nguyen Q, deTar M, Wells W, Crockett D. Cervical thymic cyst: case reports and review of the literature. *Laryngoscope*1996; 106(3 Pt 1):247-252.
4 Som PM, Sacher M, Lanzieri CF, Solodnik P, Cohen BA, Reede DL et al. *Radiology* 1985; 157(2):399-406.
5 Dano I, Dangoor E, Eliasher R, Sichel JY. Thymic cyst mimicking a branchial cleft cyst. *J Otolaryngol* 1998;27 (4):236-237.
6 Hendrickson M, Azarow K, Ein S, Shandling B, Thorner P, Daneman A. Congenital thymic cysts in children--mostly misdiagnosed. *J Pediatr Surg* 1998; 33(6):821-825.
7 Multi loculated cervical thymic cyst J NIRANAN ET AL ,paediatric imaging
8 Cervical Thymic Cyst: A Rare Differential Diagnosis in Lateral Neck SwellingVijendra Shenoy,1,2 M. Panduranga Kamath,1 Mahesh Chandra Hegde,1Raghavendra Rao Aroor,1 and Vijetha V. Maller3 Accepted 7 January 2013
9 Cervical Thymic Cyst: Unusual age and siteMoshe Englender MD1, Efrat Kfir MD[1] and David Ben-Dor MD2 K. K. Prasad, R. K. Gupta,M. Jain, D. K. Kar, and G. Agarwal,