EPH - International Journal Of Biological & Pharmaceutical Science
ISSN (Online): 2208-2166
Volume 09 Issue 01 July 2023
DOI: https://doi.org/10.53555/eijbps.v9i1.39

A CASE REPORT OF CERVICAL THYMIC CYST AND REVIEW OF LITERATURE

Dr. Shifa Zareena[1*], Dr. Anjana Vasudevan[1], Dr. Ragavi.P.S.[1], Dr. Logesh Kumar[1], Prof. Dr. Periasamy Subbiah[2]

[1]Assistant professor, Department of General Surgery, Panimalar Medical College Hospital and Research Institute, Chennai*
[2]Professor and Head of the Department, Department of General Surgery, Panimalar Medical College Hospital and Research Institute, Chennai.

Corresponding Author:

Abstract

Thymic cysts are common in children compared to ectopic cervical thymus which is more common in adults. The occurrence of cervical thymic cysts is rare and diagnosis is difficult as most cases are asymptomatic. Majority of these cases are found anterior to sternocleidomastoid and are more common on right side. Here we discuss a case of thymic cyst in the neck in a 9 year old boy. We did an excision biopsy for the child and found it to be a thymic cyst.

INTRODUCTION

The thymic cyst is a rare differential diagnosis for neck masses in children and the diagnosis most often is postoperative based on pathological examination of the resected specimen. The thymic cysts in children are more often mediastinal but may be found at any level along the normal descent of thymus from the angle of the mandible to the superior mediastinum [1, 2]

Case Report

A 9-years-old boy presented to our out-patient department with a swelling on the left side of neck of 3 months duration which was progressively increasing in size. There was no history of pain, dysphagia, hoarseness of voice, dyspnea, cough or fever. Clinical examination revealed an ill-defined swelling of 5 × 3 cm size, medial to anterior border of sternocleidomastoid muscle extending from angle of mandible to level of upper2/3rd and lower 1/3rd of SCM on left side. It was cystic in consistency with restricted mobility and without any signs of inflammation.

CT scan of neck revealed a cystic lesion in the left paraphryngeal region of neck (Fig. 1). A provisional diagnosis of lymphangioma / duplication cyst and MRI revealed a multiseptated cystic lesion. Patient was taken up for surgical excision under general anesthesia using a transverse skin crease incision. An ovoid cystic lesion over the left carotid sheath was extending behind the oesophagus , which was separated by blunt dissection from the carotid vessels and internal jugular vein and oesophagus, excised and sent for histopathological examination.

The examination of **GROSS** specimen revealed a single greyish brown capsulated soft tissue mass measuring 5.5x3.5x1cm. external surface is congested. Cut section- multilobulated cyst filled with gelatinous material.

MICROSCOPY:

Section studied shows multiloculated cystic lesion, lined by flattened to cuboidal epithelium. Lumen shows proteinaceous fluid with cyst macrophages. Septae show thick fibrocollagenous tissue with many lymphoid follicles and occasional **HASSALL CORPUSCLES.** Areas of cholesterol clefts are also seen.

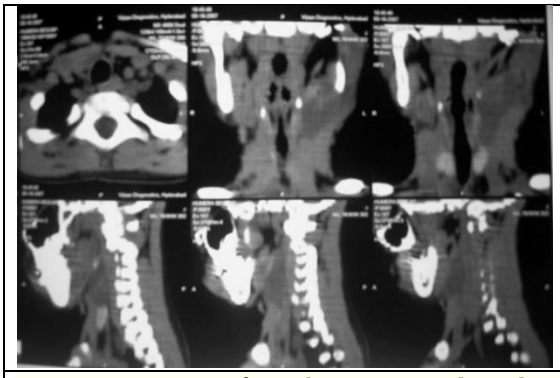

Fig. 1 CT scan of neck on sagittal and coronal reconstruction showing soft tissue lesion in upper part of left side of neck close to the carotid sheath

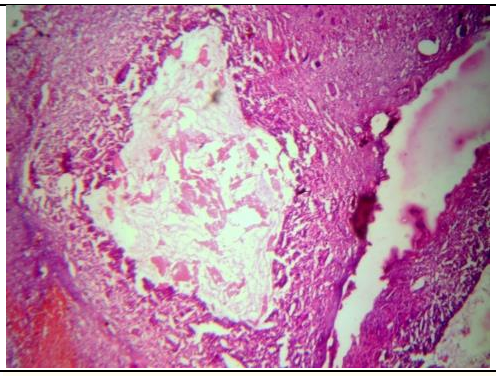

Fig. 2 Histopathological examination showing epithelial lined Hassall's corpuscle in loosely arranged medulla of thymic tissue with cystic spaces

Discussion

Embryologically, the thymus gland is derived from the ventral surface of third pharyngeal pouch in the sixth week of intrauterine life. Thymic buds of one side fuses with that of the opposite side and form a thymopharyngeal duct within which cellular proliferation takes place. Eventually superior part of thymopharyngeal duct gets obliterated and failure to do so in its path may later lead on to formation of thymic cyst. Two theories, firstly the persistence of thymopharyngeal duct and secondly the degeneration of Hassall's corpuscles, are considered plausible in regard to pathogenesis of thymic cyst proposed by Speer [3–5].

Thymic cysts are more common in children in contrast to ectopic cervical thymus which is more common in adults. The occurrence of cervical thymic cysts is rare and diagnosis is difficult as most cases are asymptomatic. Majority of these cases are found anterior to sternocleidomastoid and are more common on right side. In 6–13% cases [6] patient may present with stridor, hoarseness of voice or dysphagia. Computerized Tomography and Magnetic Resonance Imaging play an important role in detecting the lesion and its relationship to major vessels and mediastinal extension. Histopathologic examination is the only definitive means of diagnosis [2, 7, 8, 10]. Malignant degeneration is not reported in children probably due to absence of active solid thymic tissue but is a rare possibility in adults with ectopic cervical thymic mass [9]. Very rarely cyst may adhere to surrounding structures, like Internal Jugular Vein, Internal Carotid Artery, Vagus, Phrenic, Hypoglossal, or Recurrent Laryngeal nerves [2]. Differential diagnosis includes Branchial cleft cyst, cystic hygroma and thyroglossal cyst. The main modality of treatment is surgical excision [11] after ruling out possibility of immunological disturbance.

Here in our case we reterospectively went through the MRI to look for normal thymus, which was found to be absent. Since patient is aged 10 we do not expect any immunodeficiency.

Conclusion

Cervical thymic cysts should be considered in differential diagnosis of cervical cystic masses presenting in children. Prior evaluation before cervical thymectomy should be done to confirm the presence of normal mediastinal thymus to prevent immune deficiency which may arise in very young children after cervical thymectomy if it is the only thymus tissue present.

References

[1]. Reiner M, Beck AR. Cervical thymic cysts in children. Am J Surg. 1980;139(5):704–707. doi: 10.1016/0002-9610(80)90367-0.

[2]. Nguyen Q, Tar M, Wells W, Crockett D. Cervical thymic cyst: case reports and review of the literature. Laryngoscope. 1996;106(3 Pt 1):247–252. doi: 10.1097/00005537-199603000-00001.

[3]. Speer FD. Thymic cysts. Bull N Y Med Col. 1938;1:142–150.

[4]. Wagner CW, Vinocur CD, Weintraub WH, Golladay ES. Respiratory complications in cervical thymic cysts. J Pediatr Surg. 1988;23(7):657–660. doi: 10.1016/S0022-3468(88)80640-7.

[5]. Miller MB, Vito MA. Cervical thymic cyst. Otolaryngol Head Neck Surg. 1995;112(4):586–588. doi: 10.1177/019459989511200413.

[6]. Lyons TJ, Dickson JA, Variend S. Cervical thymic cysts. J Pediatr Surg. 1989;24(3):241–243. doi: 10.1016/S0022-3468(89)80002-8.

[7]. Millman B, Pransky S, Castillo J, III, et al. Cervical thymic anomalies. Int J Pediatr Otorhinolaryngol. 1999;47(1):29–39. doi: 10.1016/S0165-5876(98)00170-0.

[8]. Hendrickson M, Azarow K, Ein S, et al. Congenital thymic cysts in children-mostly misdiagnosed. J Pediatr Surg. 1998;33(6):821–825. doi: 10.1016/S0022-3468(98)90650-9.

[9]. Leong AS, Brown JH. Malignant transformation in a thymic cyst. Am J Surg Pathol. 1984;8(6):471–475. doi: 10.1097/00000478-198406000-00009.

[10]. Prasad KK, Gupta RK, Jain M, et al. Cervical thymic cyst: report of a case and review of the literature. Indian J Pathol Microbiol. 2001;44(4):483–485.

[11]. Prakasam N, Vasudevan A, Guru Prasad R, Prabakar MS, Senguttuvan K, Palani V. Platelet-Rich Plasma in the Treatment of Dorsal Wrist Ganglion. Int J Curr Res Rev. 2021;13(13):28–31.