



MEDIASTINAL THYMIC CYST PRESENTING AS A LARYNGOCELE – A RARE CASE REPORT

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ABSTRACT

Thymic cysts are rare embryonic remnants along the course of thymic migration in the neck or the anterior mediastinum which may result in cervical masses, often misdiagnosed. They are usually asymptomatic but may rarely present with dysphagia or dyspnea. Ultrasonography with Valsalva maneuver played a key role in diagnosing this case. We hereby present a rare case report of a mediastinal thymic cyst presenting as a midline neck mass which protrudes on coughing and so mimicking the clinical diagnosis of a laryngocele.

KEYWORDS

Mediastinum; Thymic cyst

INTRODUCTION

Cysts in the thymus gland can be congenital or acquired. About 10% of thymic tumors are benign cysts which are usually of little clinical significance, and can be ignored unless they produce symptoms of compression.^[1] Majority of thymic cysts are seen in the mediastinum. Thymic cysts are generally misdiagnosed as branchial cyst and cystic hygroma, since they may cause almost similar symptoms to cervical cysts. A soft reducible mass in lateral cervical region which becomes more pronounced during Valsalva maneuver is suggestive of a laryngocele. We hereby present an unusual case of a thymic cyst mimicking a laryngocele.^[1,2]

Case report

A 41 year old female presented to our ENT OPD with complain of a painless midline neck swelling which increased in size on coughing. The patient also had complaints of difficulty in swallowing, dry cough and foreign body sensation in the throat. The patient had no complaint of pain or dyspnea. On physical examination, the swelling was soft, mobile, non warm and non tender and increased in size on coughing and Valsalva maneuver. Figure 1 shows the neck of the patient at rest and Figure 2 shows the prominent neck swelling on coughing and Valsalva maneuver.

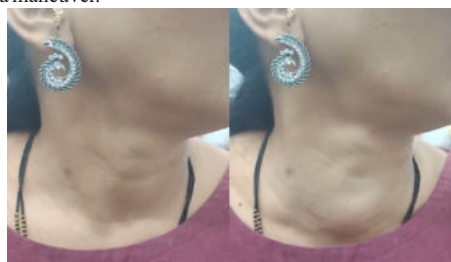


Figure 1

Figure 2

Systemic examination was within normal limits. Ultrasonography (USG) and Computed Tomography (CT) was performed.

CT scan of neck reported a well defined cystic unilocular lesion seen in midline in the infrahyoid neck space measuring approximately 11.7*3*5.7 cm and was deeper to strap muscles of neck with retrosternal extension into anterior mediastinum. No calcification/fat/solid enhancing nodules/thickened enhancing wall seen. Therefore suggestive of thyroglossal duct cyst.

USG revealed a well defined oval shaped cystic lesion of size 14*37*37 mm with echogenic content within seen in midline in superior mediastinum at level of sternal notch which increased on Valsalva maneuver and protrudes into lower neck. Differential

includes Thymic cyst/ Lymphocele. Endocrine reference was done to rule out Graves Disease & Myasthenia Gravis.



Figure 3



Figure 4

Based on the above investigations, the patient was diagnosed as a case of anterior mediastinum thymic cyst and was advised operative management for surgical resection of thymic Cyst by combined approach of Department of ENT and CVTS.

DISCUSSION

The thymus gland is the central organ of the lymphoid system during infancy. It embryologically develops from the third and the fourth pharyngeal arches in the 6th gestational week of development. During the 7th and 10th weeks, as the primordial thymus migrates caudally and medially into the mediastinum, the proximal portion of the thymopharyngeal duct usually undergoes atrophy.^[3] In the children, cervical thymic cysts constitute 0.3% of all congenital cervical cysts. Thymic cysts are rare lesions and there are less than 100 cases, together with histopathological diagnosis-reported in the literature. Sixty to seventy percent of the thymic cysts occur on the left, whereas 20–30% of them occur on the right side of the neck. Approximately, 5 to 7% of the thymic cysts occur in the midline. Thymic cysts are seen more frequently in men than women.^[3] This is a rare case report as we have a cyst in the midline of neck in an adult female patient.

Speer originally described five causes of these cysts:

- 1) Remnants of embryological thymopharyngeal ducts,
- 2) Sequestration products of thymic involution,
- 3) Degeneration of Hassal's corpuscles (epithelial cells aggregated into concentric onion skin layers of keratinized cells),
- 4) Connective tissue, lymph nodes and blood vessels arrested in various stages of thymic development,
- 5) Neoplastic changes in lymphoreticular or connective tissues [In the children, cervical thymic cysts constitute 0.3% of all congenital cervical cysts].^[4]

In general, the patients with thymic cysts are asymptomatic, but they rarely complain of dysphagia or tracheal obstruction symptoms. The clinical differential diagnosis is not easy and they are often misdiagnosed as cystic hygromas or branchial cleft cysts. Thyroglossal duct cysts, cervical lymphadenopathy, benign tumors (dermoid, epidermoid, hemangioma, and lymphangioma), and malignant tumors (lymphoproliferative diseases, soft tissue sarcomas, and other metastatic lesions) should be considered in the differential diagnosis of the cervical thymic cyst. Definitive diagnosis is done by postoperative histopathological examination.^[3]

In our case, the patient's complain of dry cough and dysphagia along with a soft reducible mass in the neck which becomes prominent on coughing and Valsalva maneuver mimics a Laryngocele. Clinically most laryngoceles are asymptomatic. When symptomatic, the patient commonly suffers a choking sensation associated with noisy respiration and muffled quality of voice. Our hypothesis is that the swelling was associated with the larynx as it became prominent on Valsalva and so clinically it was thought to be an external laryngocele. But on further radiological investigation of Computed tomography (CT) it was thought to be a thyroglossal duct cyst. Ultrasonography with Valsalva maneuver revealed the true character of the swelling as the patient was awake and cooperative during the ultrasonography and so we were able to appreciate the swelling both at rest and during the Valsalva maneuver as well, leading us to a better definitive diagnosis of a mediastinal thymic cyst.

Ultrasound and CT scan are both good modalities to assess cervical thymic cysts. They help in surgical planning and assessing the extent of the lesion. On ultrasound, they appear as hypoechoic masses with few septae and internal echoes. CT scan with contrast shows better margination and their relationship to the adjacent vessels. They are hypodense and well defined with minimal enhancement of the margins on contrast scans. MR can also be used for superior soft tissue evaluation. The lesions are hypointense on T1W images and hyperintense on T2W images. These lesions usually lie medial to the sternocleidomastoid muscle, anterior to the carotid sheath and lateral to the thyroid gland.^[4]

In our experience, Ultrasonography with Valsalva maneuver played a better key role rather than plain Computed tomography (CT) for diagnosing this rare case.

CONCLUSION

- Although rare but Thymic cysts should be kept in mind during the differential diagnosis of an external laryngocele or any soft reducible neck mass having prominence on Valsalva maneuver.
- Also, Ultrasonography with Valsalva plays a key role in diagnosing such rare typical cases.
- The definitive management of a thymic cyst is surgical excision.

Conflict Of Interest: - There is no conflict of interest

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