Case Report: Mediastinal Thymic Cyst

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Abstract

This report describes an uncommon case of mediastinal thymic cyst, which was incidentally found in an asymptomatic young woman during her previous admission. Since the nature of her lesion was unknown, it was surgically removed, and mediastinal thymic cyst was diagnosed on the basis of pathologic findings. This report describes the course of treatment and outcome. The description of mediastinal thymic cyst in the literature is very limited. Our experience in the diagnosis and management of this case adds to this description.

Key words: anterior mediastinum, thymic cyst.

Case Report

An asymptomatic 27-year-old lady, who previously underwent partial mastectomy for a benign right breast mass, was referred to the thoracic surgery division for a left anterior mediastinal mass that was incidentally found on a last pre-operative chest x-ray(CxR) (Fig. 1). Physical examinations and routine laboratory studies were insignificant. An axial chest computed tomography(CT) scan was done to further characterize the lesion (Fig 2), and it showed a well-defined cystic mass in the left upper pericardial region. With the impression of a pericardial cyst, the patient was admitted for surgical diagnosis and treatment.

Video-assisted thoracoscopic surgery (VATS)was performed to resect the anterior mediastinal mass completely and the whole specimen (Fig. 3) was sent for histopathological examinations. Gross inspections of the specimen showed a tan-white soft unilocular cyst with translucent smooth wall and oily liquid content. Histopathology (Fig. 4) confirmed a cyst, which is lined by a single layer of flattened epithelium with adjacent benign thymic tissue and concluded a diagnosis of a thymic cyst.

The patient recovered well with routine post-operative management and she was discharged with a scheduled respiratory rehabilitation program and out-patient follow ups.

Discussion

Thymic cysts are uncommon. Through literature review, there were few cases reported in the past. Even though the number of cases reported seems to be increasing with the advent radiologic modalities, the reported incidence rate in 2007 is 1 to 3 percent of all mediastinal masses and 5 to 28 percent of all mediastinal cysts [1].

Thymic cysts may be of wide and diverse etiologies, and they can be either congenital or acquired [1-3]. Congenital cysts are generally thin walled, unilocular, translucent, and most importantly, non-inflammatory and has thymic tissue in their lining. Congenital thymic cysts are derived from the remnants of the thymopharyngeal duct and they can be found anywhere between the neck and the mediastinum, where the thymus gland migrates during its embryologic development [2-4]. The

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acquired thymic cysts can be further subdivided into inflammatory, infective and neoplastic types. They are primarily of multilocular in nature and they are lined partially by the epithelium with various degrees of inflammation [2,5]. Acquired multilocular thymic cysts may be developed de novo or it could be associated with wide range of different disorders. The reported disorders that can be associated with the occurance of multilocular thymic cysts are cystic degeneration of thymomas, Hodgkin's lymphoma, seminoma, Sjogren's syndrome, Myasthenia gravis, HIV and so forth [6].

Most of the patients with thymic cysts are asymptomatic[7]. However, they can produce symptoms by the mechanical compressive effects on any adjacent structures in the thoracic cavity. Symptoms do occur, especially with higher frequencies in the pediatric population. Commonly reported symptoms include: wheezing, dyspnea, cough, chest pain and dysphagia [2,6].

Thymic cysts are generally incidental findings after a radiographic study either done routinely or for other purposes. It can be a chest x-ray or any other imaging studies of the thorax, such as the computed tomography scan, echocardiography, or magnetic resonance imaging. Diagnosis is very rarely made pre-operatively, but imaging studies often provides helpful information in surgical planning and assessing the extent of the lesion [2].

Thymic cysts have the potential to undergo neoplastic changes [5-6]. Intracystic hemorrhages or infections can expand a thymic cyst rapidly and amplify the local compressive effect and resulting in various symptoms. A hemorrhaging thymic cyst can also cause hemomediastinum or hemothorax. Even though these complications are rare, complete surgical resection is recommended to most if not all patients with mediastinal cyst due to these potential complications. Surgery provides a specimen for histologic diagnosis and excludes its malignant potential, and it could also prevent further cystic enlargement and provide symptom relief. However, conservative treatment of asymptomatic patients also has been reported [1].

The prognosis for thymic cysts is excellent. There are very few, if any, local recurrences that have been reported, even with near-complete resections leaving the attached portion of the cyst wall unremoved [5-6]. However, due to the limited cases and literature resources, questions such as the prognosis and complication rates in asymptomatic patients with mediastinal thymic cyst who were treated conservatively, or the possibility of neoplasm in the attached cystic wall which is left unresected, and many other questions in regards to the mediastinal thymic cysts still need to be answered by larger, more powerful research studies.

One should keep in mind, when a pericardial cystic lesions is found in symptomatic or asymptomatic patients, that there are various differential diagnoses, including pericardial cyst, bronchogenic cyst, teratogenic cyst, mesothelial cyst, cystic lymphangioma and parasitic cyst [1].

Use of VATS in treating of a number of mediastinal diseases has been used successfully and superior to other indirect biopsy techniques. This provides chest surgeon a better vision of tumor extent and it's resectability.

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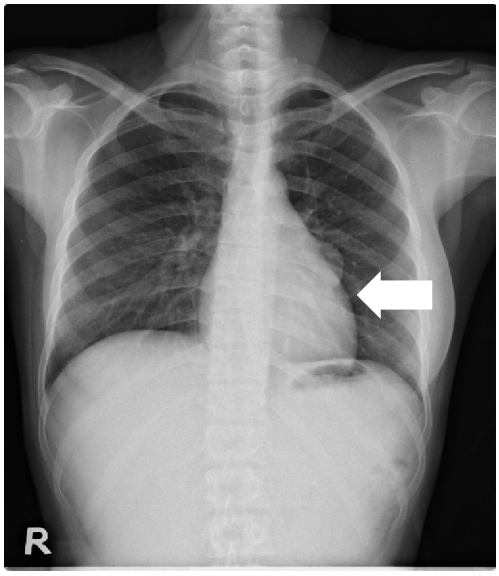

Fig 1. Chest x-ray shows a well-defined nodular density at the left hilar region.

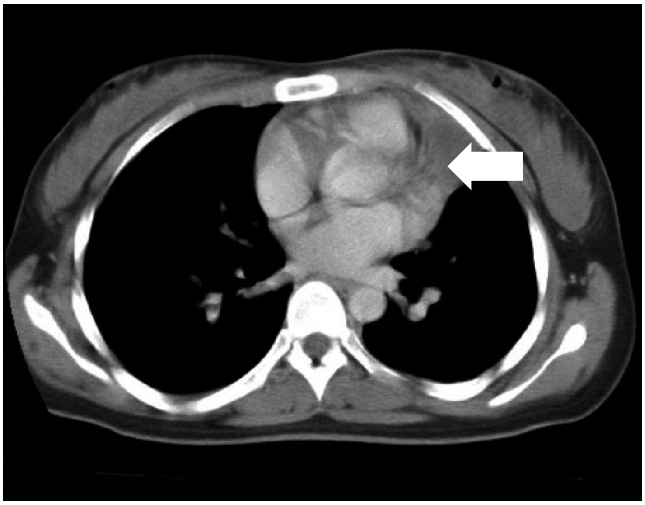

Fig. 2 Computed tomography of chest shows a well-defined cystic mass(white arrow), which is about 2.8 x 3.8 x 5 cm in dimension in the left upper pericardial region of the anterior mediastinum with increased density of the thymus.

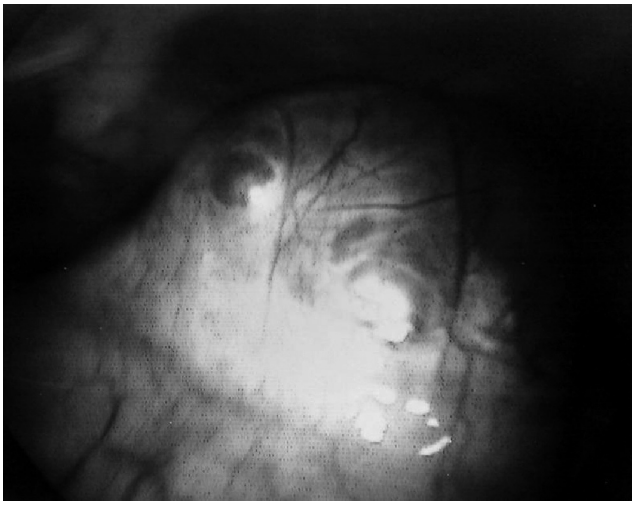

Fig. 3 A photograph of the gross specimen under thoracoscopy: a tan-white soft unilocular cyst with translucent smooth wall and liquid content.

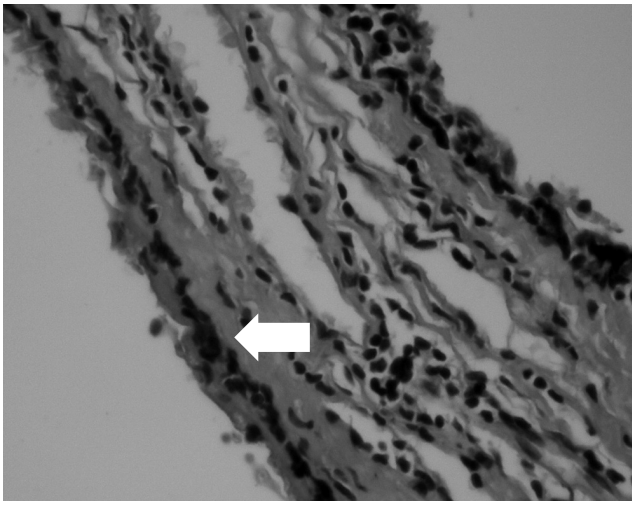

Fig. 4 A photomicrograph shows a cyst lined by a single layer of flattened epithelium with adjacent benign thymic tissue(white arrow). (H&E stain, X 100).

縱膈腔胸腺囊腫：病例報告

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摘　　要

胸腺囊腫是一少見疾病。本文報告一27歲女性因左側乳房良性纖維腺瘤接受部份乳房切除而意外發現的前縱膈腔囊腫，經胸腔鏡手術後診斷爲胸腺囊腫的病例。我們利用有限的文獻，對胸腺囊腫作一詳細介紹及討論。本患者在術後的門診追蹤並無復發現象。

關鍵字：前縱膈腔、胸腺囊腫。