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Case Report

Cystic thymoma presenting with urticaria: a case report

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ABSTRACT

Thymomas are epithelial neoplasms of the thymus and are the most common primary tumors of the anterior superior mediastinum, although it can also arise in other locations like the neck, the middle or posterior mediastinum, the lung and the pleural cavity. Ectopic thymomas are said to arise from scattered thymic elements as a result of failure of migration into the anterosuperior mediastinum. The neoplasm may be well encapsulated or may display varying degrees of invasion of the tumor capsule and the adjacent structures. We report a case of non-invasive cystic thymoma in a young individual with unusual clinical presentation and imaging findings.

Keywords: Anterior mediastinum, Cystic thymoma, Urticaria

INTRODUCTION

Thymomas are epithelial neoplasms of the thymus and are the most common primary tumors of the anterior superior mediastinum, although it can also arise in other locations like the neck, the middle or posterior mediastinum, the lung and the pleural cavity.[1] Ectopic thymomas are said to arise from scattered thymic elements as a result of failure of migration into the anterosuperior mediastinum.[2] The neoplasm may be well encapsulated or may display varying degrees of invasion of the tumor capsule and the adjacent structures.

We report a case of noninvasive cystic thymoma in a young individual with unusual clinical presentation and imaging findings.

CASE REPORT

A 31 year old individual presented to the dermatology OPD with one month history of repeated episodes of itchy rashes all over his body. Examination revealed urticarial wheal which subsided on treatment with oral antihistamines. The general and systemic examinations and laboratory investigations were within normal limits. Radiograph chest frontal (Figure 1) and right lateral (Figure 2) views revealed a well-defined, homogeneous, soft tissue density mass located inferiorly in anterior mediastinum with well-defined margins without any calcification within.

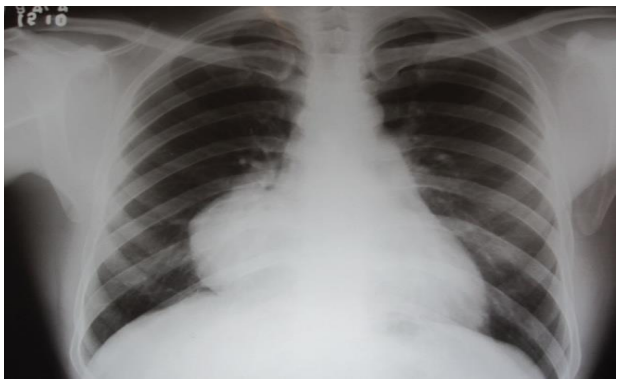

Figure 1: Radiograph chest PA view showing a soft tissue opacity mass in right cardiophrenic angle.

Ultrasound examination of the lesion revealed it to be cystic in nature with an eccentric solid component. No septae or calcified elements could be seen.

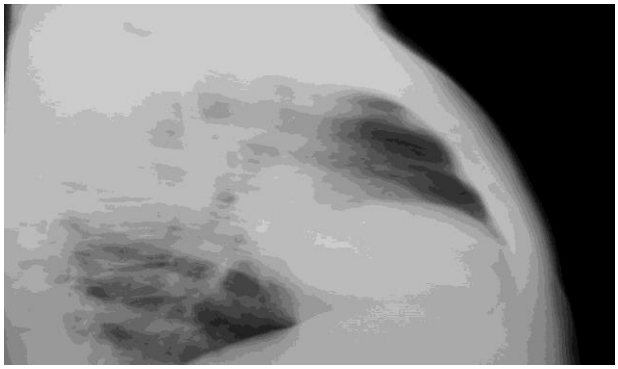

Figure 2: Radiograph chest right lateral view showing the mass to be located inferiorly in anterior mediastinum.

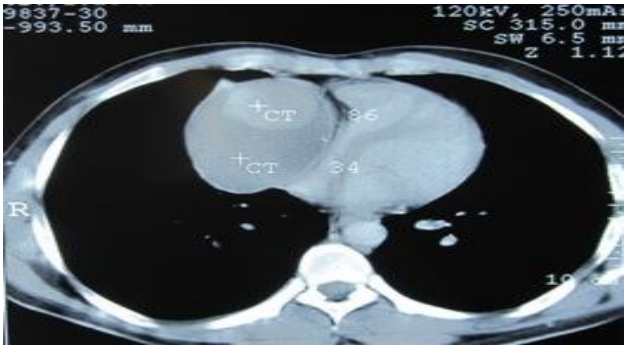

Figure 3: CECT chest showing the cystic nature of the mass with anteriorly located enhancing mural nodule.

Non contrast and contrast enhanced CT scan (Figure 3) confirmed the cystic nature of the mass and showed the solid component to be enhancing after contrast injection. The margins of the lesion were very well defined and tissue planes at the periphery were well maintained. There was no mediastinal lymphadenopathy (Figure 4).

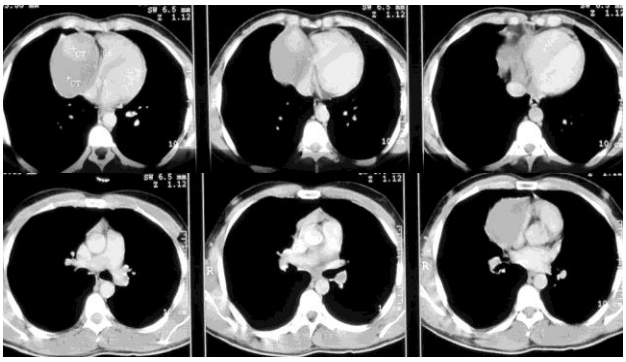

Figure 4: Serial axial CECT chest sections showing the extent of the mass lesion.

Based on patient presentation and these imaging findings a differential diagnosis of Hydatid cyst, Cystic teratoma and Bronchogenic cyst were considered and due to inferior mediastinal location a thymic lesion was considered lower down in the list. The patient was referred to specialized chest centre where right thoracotomy and total excision of the lesion was achieved without any complications. The per operative impression was that of a Pericardial cyst. Gross examination revealed a well-defined cystic lesion with intact fibrous capsule and hemorrhagic fluid within; with an eccentrically placed fleshy nodule (Figure 5) and histopathological examination of the solid nodule revealed sheets of small lymphocytes with scattered epithelial cells without capsular invasion establishing the diagnosis of encapsulated thymoma with cystic change (Figure 6).

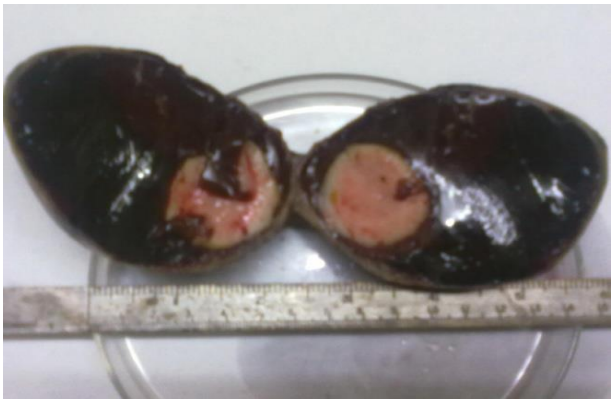

Figure 5: Gross specimen showing the intact cyst wall with fleshy mural nodule.

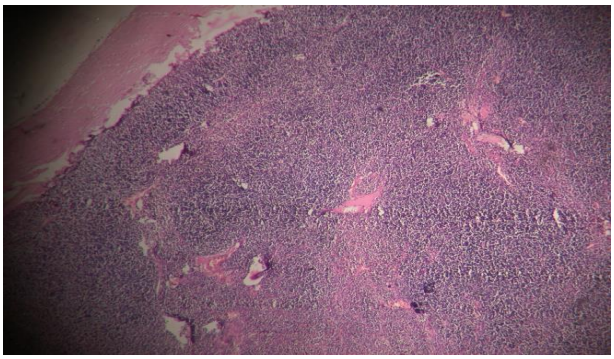

Figure 6: Photomicrograph of a section from the nodule showing sheets of small lymphocytes with scattered epithelial cells and intact capsule.

DISCUSSION

Thymoma is the most common primary neoplasm of the thymus. It usually occurs in adults. The anterior-superior compartment of the mediastinum is the most common site of occurrence. The tumor affects men and women almost equally. The majority of affected patients are adults over 40 years of age, and 70% of tumors occur in the 5th and 6th decades of life.[3]

Most Thymomas are discovered incidentally in asymptomatic individuals because of radiographs

obtained for other reasons. In some of the cases, patients present because of signs and symptoms related to compression of adjacent mediastinal structures.

Cystic degeneration in a thymoma is relatively common but a focal feature. Rarely, it can be of extreme degree that the entire lesion becomes cystic, posing a diagnostic problem. The tumour may be seen either as a mural nodule or as randomly scattered solid areas. Sometimes the tumor may be seen only on microscopic examination. It has to be differentiated from congenital or acquired thymic cysts and other thymic neoplasms with cystic change.[4]

Patients with thymoma may have myasthenia gravis or other systemic disorders, such as pure red cell aplasia, hypogammaglobulinemia, endocrine disorders, cutaneous disorders, and connective tissue disorders. These associated conditions have been referred to as parathymic syndromes and are found in approximately 40% of patients with thymoma.[5]

CT scan is the imaging technique of choice in the evaluation of thymomas. It provides information on the precise anatomic location of the lesion, its relationship to surrounding structures, and its tissue attenuation characteristics. In our case, plain radiographs and ultrasonography suggested the presence of a cystic mediastinal mass. The peculiar antero-inferior location in the right cardio phrenic region and predominant cystic consistency was misleading in differential diagnosis. CT scan enabled us to exclude mediastinal lymphadenopathy and infiltration beyond the mass. It allowed accurate delineation of the size and cystic nature of the mass which facilitated surgical planning. The presentation of our case in the form of urticaria can be attributed to the parathymic syndrome the pathophysiology of which is poorly understood.

CONCLUSION

In conclusion, we present a rare case of noninvasive encapsulated cystic thymoma in a young man where imaging findings were potentially misleading due to the location and consistency of the lesion. This case highlights the importance of applying appropriate imaging modalities, carefully considering the imaging findings, making a broad differential diagnosis and also emphasizes the vital role of inter-specialty teamwork in arriving at a diagnosis.

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