

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/radcr

Case report

Rare mass of the anterior mediastinum: Thymolipomas [☆]

Amal Akammar^{a,*}, Sylvie Kolani^a, Zineb Benchekroune^a, Nizar EL Bouardi^a,
Meriem Haloua^a, Moulay Youssef Alaoui Lamrani^{a,b}, Meryem Boubbou^{a,b}, Mounia Serraj^{b,c},
Mohamed Smahi^{b,d}, Maaroufi Maâroufi^{a,b}, Badreeddine Alami^{a,b,e}

^a Radiology department of Hassan II university hospital of Fez, Sidi Mohammed Ben Abdallah University of Fez Morocco

^b Clinical Neurosciences Laboratory, Sidi Mohammed Ben Abdallah University of Fez Morocco

^c Pneumology department of Hassan II university hospital of Fez, Sidi Mohammed Ben Abdallah University Fez Morocco

^d Thoracic surgery department of Hassan II university hospital of Fez, Sidi Mohammed Ben Abdallah University of Fez Morocco

^e Department of Biophysics and Clinical MRI Methods, Sidi Mohammed Ben Abdallah University of Fez morocco

ARTICLE INFO

Article history:

Received 26 May 2021

Revised 1 June 2021

Accepted 7 June 2021

Keywords:

Thymolipoma

Anterior superior mediastinum

Fatty mass

ABSTRACT

Thymolipoma is a rare benign neoplasm of the thymus containing both mature adipose tissue and thymic tissue. We report a case of a 34-year-old man, presenting a mass of the anterior mediastinum, the radiology investigation and operator piece diagnosed a thymolipoma.

This study highlights the clinical diagnostic and therapeutic features as well as the evolutionary characteristics of this entity.

© 2021 The Authors. Published by Elsevier Inc. on behalf of University of Washington.

This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

Introduction

Thymolipoma is a rare benign neoplasm of the thymus containing both mature adipose tissue and thymic tissue. It represents 2%–9% of all thymic neoplasms [1]. Thymolipomas are slow-growing, benign tumors of the thymus. Mostly,

they are asymptomatic. The diagnosis is strongly supported whenever a connection to the anterior superior mediastinum is demonstrated on imaging studies performed for a mass that contains fat and soft tissue or that is predominantly fatty.

[☆] Competing interests: The authors do not declare any conflict of interest.

* Corresponding author. A. Akammar. Radiology department of Hassan II university hospital of Fez, Morocco.

E-mail address: Amalakammar@gmail.com (A. Akammar).

Observation

The patient was a 34-year old man, with 4 months' history of stage II dyspnea, and chest pain without cough or hemoptysis. He was generally healthy. During the medical examination, the patient was conscious, afebrile, with tachypnea at 22 cycles per minute, normal heart rate (85 bpm), and normal blood pressure measured at 135/80 mm Hg. The physical examination revealed pulmonary dullness in the basal Hemi-left lung. Chest radiograph showed an opacity of the lower half of the left hemithorax, silhouetting the left heart border and the left diaphragm (Fig. 1). The findings suggested a mass of anterior mediastinal location. No other pulmonary lesion was noted. There were no signs of pleural effusion. Thoracic contrast-enhanced chest CT was performed and revealed a large well-defined heterogeneous mass with a predominance of fat density and focal areas of soft tissue density, which extended from the anterior mediastinum to the left diaphragm, displacing the lung superiorly (Figs. 23). There was no sign of pulmonary or adjacent tissue infiltration.

The patient underwent total surgical excision of the mass. The histology study concluded a thymolipoma. On the control chest radiograph, there was a total disappearance of the opacity in the lower left hemithorax with ipsilateral costophrenic angle blunting (Fig. 3).



Fig. 1 – Chest radiograph showed an opacity of lower half of left hemithorax, silhouetting the left heart border and the left diaphragm

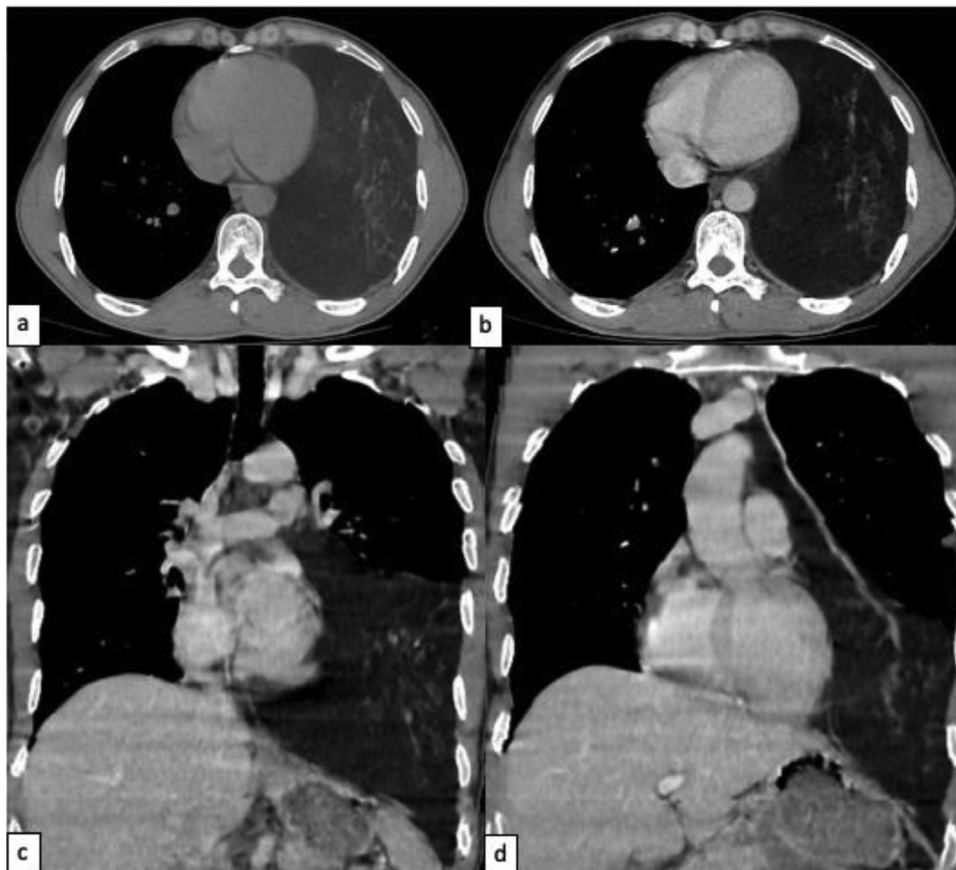


Fig. 2 – Unenhanced (A) and contrast-enhanced chest CT scan on the axial (B) and coronal (D,C) sections: revealed a large well-defined heterogeneous mass with predominance of fat attenuation values mingled with focal areas of soft tissue density, which extended from the anterior mediastinum to the left diaphragm, displacing the lung superiorly.



Fig.3 – On the control chest radiograph, there was a total disappearance of the opacity in the lower left hemithorax with ipsilateral costophrenic angle blunting.

Discussion

Thymolipoma is a rare benign neoplasm of the thymus containing both mature adipose tissue and thymic tissue, accounting for 2-9% of all thymic tumors [2]. It affects both sexes equally, at any age with an age interval between 3 of 56 years and a peak at 33 years, and is located electively in the anterior mediastinum. These tumors usually demonstrate slow growth and can reach huge dimensions. Most are asymptomatic. Symptoms when present, are due to mass effect and compression; and include pain, cough or dyspnea [3]. They can be associated with some autoimmune diseases as myasthenia, systemic lupus erythematosus [4].

On chest radiographs, it presents as a mass that usually drapes over adjacent structures and can simulate cardiomegaly, pericardial masses, atelectasis or, pleural effusion. When small, thymolipomas can be limited to the anterior mediastinum. CT findings include a large, well-defined mass reflecting the encapsulation of this tumor. Thymolipomas are comprised predominantly (50-85%) of fat-attenuated tissue, representing the mature adipose component and focal and linear areas of soft tissue representing thymic tissue and fibrous septations [5].

The diagnostic confirmation is anatomopathological, indeed the macroscopic examination of the surgical specimen shows a well-limited tumor of soft consistency and appearance fat and lobulated at section slice [6]. The differential diag-

nosis includes fat-containing lesions such as teratomas, lipomas and liposarcoma, thymoliposarcomas, mediastinal lipomatosis, and diaphragmatic hernias [7,8]. Avidly enhancing, thick/nodular septa or evidence of local invasion are suggestive of malignancy moving towards the diagnosis of liposarcomas.

The treatment of thymolipomas consists of surgical removal. The surgical incision is usually by sternotomy; it allows an excellent exploration of the thymus.

Histopathological study is the only diagnostic tool that can rule out the benign or malignant nature of fatty masses in the mediastinum. The prognosis for thymolipoma is excellent as it does not infiltrate adjacent tissue and no malignant transformation has been reported [9].

Conclusion

Thymolipoma is a rare benign neoplasm of the fat mediastinal mass. Imagery has an important role in the detection of the fatty part, benign characteristics and the resectability evaluation. The diagnostic confirmation is anatomopathological.

Patient consent

Written informed consent was obtained from the patient for the publication of this case report.

REFERENCE

- [1] Fraser RG, Pare JAP, Pare PD, Fraser RS, Genereux GP. Diseases of the mediastinum. In: Fraser RG, Pare JAP, Pare PD, Fraser RS, Genereux GP, editors. *Diagnosis of diseases of the chest*. Philadelphia, Pa: Saunders; 1991. p. 2818–20.
- [2] Halkos ME, Symbas JD, Symbas PN. Acute respiratory distress caused by massive thymolipoma. *South Med J* 2004;97(11):1123–5 (PMID: 15586609).
- [3] Ceran S, Tulek B, Sunam G, Suerdem M. Respiratory failure caused by giant thymolipoma. *Ann Thorac Surg* 2008;86(2):661–3 (PMID: 18640359).
- [4] Wang Y, Sun Y, Zhang J, Zhou N, Liu Y, Li Y, et al. Diagnosis, treatment and prognosis of thymoma: an analysis of 116 cases. *Chin Med J* 2003;116(8):1187–90 (PMID: 12935408).
- [5] Melissa L. Rosado-de-Christenson, thymolipoma: analysis of 27 cases. *Radiology* 1994;193:121–6.
- [6] M. Lakranbi, M. Caidi, Y. Ouadnoui, Thymolipome révélé par une myasthénie, *emc, revue neurologique* 1 65,2 0 0 9, 2 8 8 –2 9 0
- [7] Faerber EN, Balsara RK, Schidlow DV, Marmon LM, Zaeri N. Thymolipoma: computed tomographic appearances. *Pediatr Radiol* 1990;20(3):196–7 (PMID: 2352801).
- [8] Gaerte SC, Meyer CA, Winer-Muram HT, Tarver RD, Conces DJ Jr. Fat-containing lesions of the chest. *Radiographics* 2002;22(Spec No):S61–78 (PMID: 12376601).
- [9] Moran CA, Rosado de Christenson M, Suster S. Thymolipoma: clinicopathologic review of 33 cases. *Mod Pathol* 1995;8:741–4.