

Short reports

Thymolipoma simulating cardiomegaly: use of computed tomography in diagnosis

PAULUS WINARSO, IAN ISHERWOOD, S PHOTIOU, RJ DONNELLY

From the Department of Diagnostic Radiology, University of Manchester, and the Liverpool Cardio-thoracic Surgical Centre, Broadgreen Hospital, Liverpool

Thymolipoma is a rare, benign tumour which frequently presents as a symptomless mediastinal mass found on routine chest radiology. It can attain a very large size and may then simulate cardiomegaly.¹⁻³ We present a case in which computed tomography proved of value in differentiating such a tumour from cardiac enlargement and in depicting the size, extent, location, and consistency of the mass.

Case report

A 22-year-old woman was originally referred to a cardiologist because of an abnormal chest radiograph (fig 1) obtained during a routine medical examination. The patient admitted to having had increasing dyspnoea for about one year and for this reason had discontinued her studies as a nurse six months previously. At the cardiological examination pulse, blood pressure, heart sounds were normal, and electrocardiography also gave normal results.

Ultrasound examination was unhelpful. Cardiac catheterisation and angiography did not show any cardiac abnormalities. The patient was then referred to a thoracic

surgeon. Barium swallow and screening of the diaphragm showed the presence of a large mass above the left hemidiaphragm. The mass moved with respiration and depressed the fundus of the stomach. At bronchoscopy there was evidence of external compression of the left-lower-lobe bronchus and its branches.

Computed tomography (fig 2) carried out in the University of Manchester department of diagnostic radiology showed a large mediastinal mass occupying the lower half of the left hemithorax and extending anteriorly across the midline. The mass, which was separate from the heart and displacing it to the right, was of mixed density, containing fat and foci of calcification. A lipodermoid was considered to be the most likely diagnosis.

At operation the tumour was approached by left thoracotomy through the bed of the sixth rib. A large fatty tumour that arose from the anterior mediastinum and occupied the lower half of the left hemithorax, displacing the left lung upwards and backwards, was found within a discrete shining capsule. The tumour was soft, yellow, and lobulated and was easily dissected from within its capsule. The removed specimen weighed 2600 g.

Histological examination showed the tumour to consist mainly of mature adipose tissue, with areas of thymic tissue containing Hassall's corpuscles but no germinal centres. The appearances were considered typical of a thymolipoma.

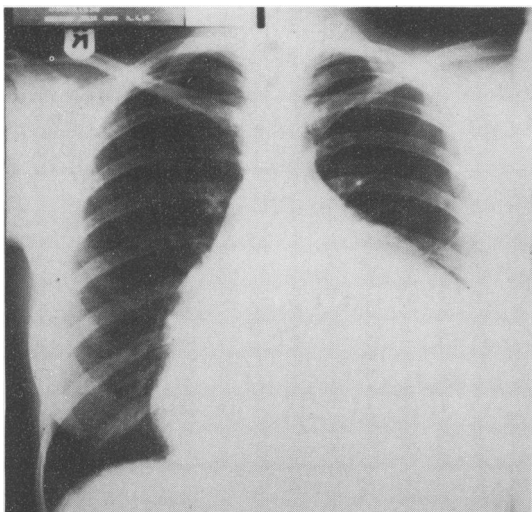


Fig 1 Posteroanterior chest radiograph showing apparent cardiomegaly.

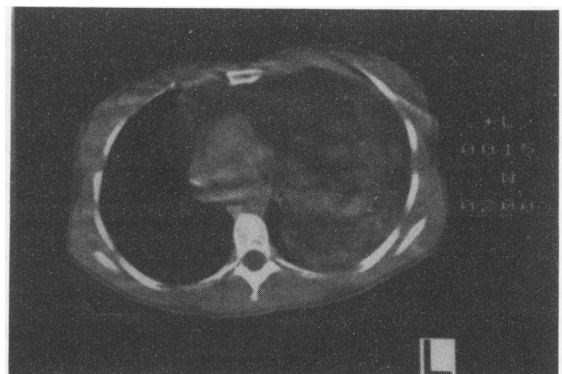


Fig 2 Computed tomography section of the thorax showing extension of the mass across the midline with displacement of the heart to the right.

Address for reprint requests: Mr RJ Donnelly, Chest Unit, Broadgreen Hospital, Liverpool 14.

Discussion

Thymolipoma is a rare but distinct tumour which usually presents as an asymptomatic mediastinal mass arising within the thymus. Most reported tumours have weighed more than 500 g and a quarter have been over 2 kg. The largest tumour on record weighed over 16 kg.⁴

There is no sex predilection and the ages in reported cases have ranged from 3 to 60 years, with a mean age of 22 years. Several systemic diseases, including Graves' disease,⁵ aplastic anaemia, and myasthenia gravis,⁷ have been reported in association with thymolipoma. As many as 40% of patients present with apparent cardiomegaly¹; and barium swallow, angiocardiology,⁵ and pneumomediastinography⁸ have been used to distinguish the tumour from cardiac enlargement.

Computed tomography may be of value in the detection and localisation of thymoma, which is usually detected as a mass of increased attenuation. The computed tomography appearances of mediastinal lipoma are characteristic, with a well-defined mass of low (from -40 to -60 Hounsfield units) attenuation value.⁹ In the present case computed tomography showed a mass of mixed density containing both fat and calcification. There was no evidence to suggest malignancy.

In patients with apparent cardiomegaly the absence of symptoms and signs of cardiac disease should raise the suspicion of a mediastinal tumour. Computed tomography is a valuable, non-invasive technique to differentiate between the two conditions and to provide detailed information about the size and nature of a mass.

References

- ¹ Orseff I, Levine B, Gilbert L. Lipothymoma simulating cardiomegaly: case report. *Am Heart J* 1958;**56**: 119-25.
- ² Gunnels, GC jun, Miller DE, Jacoby WJ jun, May RL. Thymolipoma simulating cardiomegaly: opacification of the tumour by cine-angiocardiology. *Am Heart J* 1963;**66**:670-4.
- ³ Almog CH, Weissberg D, Herczeg E, Pajewski M. Thymolipoma simulating cardiomegaly: a clinicopathological rarity. *Thorax* 1977;**32**:116-20.
- ⁴ Rosai J, Levine GD. Tumours of the thymus. *Atlas of tumour pathology*, second series. Washington DC: Armed Forces Institute of Pathology, 1976: fascicle 13, 162-6.
- ⁵ Benton C, Gerard P. Thymolipoma in a patient with Graves' disease. *J Thorac Cardiovasc Surg* 1966;**51**: 428-33.
- ⁶ Barnes RDS, O'Gorman P. Two cases of aplastic anaemia associated with tumours of the thymus. *J Clin Pathol* 1962;**15**:264-8.
- ⁷ Reintgen D, Fetter BF, Roses A, McCarty KS. Thymolipoma in association with myasthenia gravis. *Arch Pathol Lab Med* 1978;**102**:463-6.
- ⁸ Guilfoil RH, Murray H. Thymolipoma. *Surgery* 1955; **38**:406-9.
- ⁹ Isherwood I, Forbes W St C. CT scanning—the body. In: Sutton D, ed. *Textbook of radiology and imaging*. 3rd ed. Edinburgh: Churchill Livingstone, 1980.