Lymphoma mimicking cardiomegaly

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As many as 20% of patients dying with lymphoma are found to have cardiac disease at postmortem examination.^{1,2} The clinical signs and symptoms of cardiac dysfunction in these cases may be few and non-specific and are not always related to the lymphoma.¹⁻³ Several authors have reported necropsy findings with three patterns of cardiac spread—namely, pericardial, epicardial-adventitial, and diffuse interstitial-perivascular.^{4,5} Each of these patterns may be correlated with one of the three proposed mechanisms by which lymphoma and malignant neoplasm in general may spread to affect the heart: direct extension, retrograde flow through cardiac lymphatics, and haematogenous spread.¹⁻⁴

This paper describes a patient referred to the cardiology department with a diagnosis of cardiomegaly that was not confirmed by the computed tomography scan, which showed a mediastinal mass.

Case report

A 20-year-old Caucasian man presented in 1978 after an abnormal chest radiograph (fig 1) taken before he joined the Royal Air Force. He was refused entry into the RAF, but in view of the fact that he was totally symptom free, very fit, and played rugby to a high standard he was reassured and discharged with a diagnosis of "athlete's heart." Chest radiography was repeated towards the end of 1982. It showed further apparent cardiac enlargement and development of a bulge over the left upper border of the cardiac shadow. The patient's general condition remained good but the physical examination on this occasion gave abnormal findings, with a loud first sound and an ejection systolic murmur audible over the aortic and pulmonary area. At this stage he was instructed to cease all rugby training and vigorous exercise and advised to have further investigations.

On admission he looked well and the arterial pulse and venous pressure were normal. No increased pulsation was felt over the left ventricle but there was some increased thrust medially. A fairly long, not very loud systolic ejection murmur with quite wide and apparently fixed splitting of the second sound was heard. The electrocardiogram was normal and the echocardiogram showed the mitral valve, aortic valve, aortic size, and left ventricle dimensions to be within the normal range. The clinical picture and exercise tolerance were incompatible with a progressive cardiac defect.

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Fig 1 Posteroanterior chest radiograph showing apparent cardiomegaly.

Computed tomography (fig 2) showed a large round lobulated mass on the left cardiac border, the density of which was suggestive of a soft tissue tumour rather than a cyst. A left posterolateral thoracotomy was performed. A large irregular encapsulated mass, about 20 cm long and 10 cm at its widest, was found to be lying longitudinally on the anterolateral aspect of the pericardium, anterior to the

Fig 2 Computed tomography scan section of the thorax showing a large mass on the left cardiac border.

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phrenic nerve, widest inferiorly and tapering superiorly where it crossed the midline abutting against the right pleura. This consisted of three cystic swellings joined together by a common capsule, the largest cyst inferiorly and the smallest superiorly. The cyst contained brownish green thin fluid with some whitish material of porridge like consistency. The trilobular mass was excised from the mediastinum quite easily by a combination of blunt and sharp dissection. Histological examination showed a malignant non-Hodgkin's lymphoma of centrocytic, centroblastic type with residual thymus identified in one loculus.

Discussion

Although the histological and anatomical features of mediastinal masses have been classified,⁶ the surgery of such masses may continue to present unique problems.

The goals of surgery are to provide a specific histological diagnosis on which to base prognosis, to relieve symptoms, to prevent pressure on mediastinal structures, and to provide radical treatment of malignant disease. In view of this the use of computed tomography in disease of the thorax can be of great help in the detection of disease that has not been discovered by other radiographic means, in the determination of the extent of disease, and in the identification of the type of tissue responsible for abnormalities detected by other radiographic means.^{7,8} Mediastinal tumours may blend in with adjacent mediastinal structures and therefore may be difficult to diagnose from conventional radiographic examination (as in the case reported). Computed tomography allows precise images of anatomical areas inaccessible by conventional radiographic technique.⁸

Although one case of thymolipoma simulating cardiomegaly⁹ diagnosed with the help of computed tomography and one case of primary cardiac lymphoma mimicking hypertrophic cardiomyopathy have been reported,¹⁰ we believe that this is an unusual case because of the following

factors: (1) The primary lymphoma was located on the anterolateral aspect of the pericardium anterior to the phrenic nerve without infiltration of the heart. (2) The mass mimicked radiographic features of cardiomegaly even though the clinical signs and symptoms of cardiac dysfunction were not present. There was, however a systolic ejection murmur audible over the aortic and pulmonary areas, due to compression of the pulmonary artery by tumour. (3) The lymphoma was never suspected clinically.

We wish to emphasise the importance of further investigation before a diagnosis of athlete's heart is made, with its implications for the lifestyle of the patient. Computed tomography was particularly useful in this respect in our case.

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