A huge mediastinal abscess masquerading as cardiomegaly: the value of non-invasive investigations

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Computed tomography of the thorax showed a large encapsulated mass occupying virtually the whole of the left hemithorax, compressing the left lung and displacing the heart and superior mediastinal vessels to the right. It extended from the upper end of the sternum to the diaphragm and had an attenuation number of 20–30 Hounsfield units, suggesting a semi-solid consistency such as that of pus or a liquefying blood clot (fig 2).

The following pressures were found at cardiac catheterisation: right atrial mean pressure 11 mm Hg, right ventricular pressure 64/0–18 mm Hg, pulmonary artery pressure 34/18 mm Hg, pulmonary capillary wedge pressure 15 mm Hg, and left ventricular pressure 117/4–22 mm Hg. There was a peak-to-peak gradient of 30 mm Hg across the pulmonary valve. Left ventricular angiography showed a normal-sized well-contracting ventricle displaced to the right. There was no mitral incompetence. A right ventricular angiogram showed displacement of a normal-sized ventricle and main pulmonary artery to the right and the left pulmonary artery arching superiorly over a radio-opaque mass. Follow-through of the contrast showed a normal left atrium.

Thoracotomy was performed through a left anterolateral intercostal approach. A large, tense cystic mass with a wall 3–4 mm thick was identified and a litre of pus was removed by needle aspiration. The anatomy was difficult to define precisely. The wall could be stripped from adjacent structures and did not appear to be causing any constriction of the heart. Histological examination of the wall of the mass showed granulation tissue only and no growth was obtained from the pus submitted for culture. The patient's postoperative course was uneventful. Fifteen months after operation examination of the cardiovascular system showed nothing abnormal, a chest radiograph showed a normal heart size, and an electrocardiogram showed non-specific T wave changes only.

Discussion

The mediastinal abscess in this case closely mimicked primary cardiac disease and cardiac catheterisation did indeed give abnormal findings. The initial suspected diagnosis was an idiopathic mitral subannular left ventricular aneurysm, although the features were not typical. Other causes of large hearts, such as dilated cardiomyopathy, Ebstein's anomaly, and pericardial effusion, were on clinical grounds felt not to warrant serious consideration.

Non-invasive investigations with echocardiography and computed tomography were virtually diagnostic. M-mode and 2-D echocardiography showed the site of the heart and the mass, as well as the fact that the heart chambers themselves were not affected. The value of echocardiography in
(a) Chest radiograph at the time of the initial acute illness showing a large heart, right basal changes, and right-sided pleural effusion. (b) Chest radiograph nine months later showing a much bigger cardiac shadow and clear lung fields.

the evaluation of similar problems has been emphasised. Computed tomography of the thorax confirmed the extra-cardiac nature of the mass and gave important additional information about its consistency, extent, and anatomical relationships. The usefulness of computed tomography in the evaluation of mediastinal abnormalities has been pointed out previously.†

The probable course of events in this patient was that septicaemic spread to the mediastinum occurred at the time of his osteitis. Presumably appropriate antibiotic treatment sterilised the abscess, resulting in the huge compressive mass. Whether this was a mediastinal or an encysted pericardial collection could not be established definitively even at surgery.

References