Large thymoma mass invading cardiac structures
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DESCRIPTION
We report a retired, Afro-Caribbean man aged 69 years who presented to his local hospital with several weeks of dyspnoea and cough. Physical examination was unremarkable apart from an elevated jugular venous pressure and a bilateral pedal oedema. His medical history included asthma and controlled hypertension. Urgent transthoracic echocardiography showed a large soft tissue mass in the pericardial space compressing the right ventricle (RV), and the right atrium (RA).

A CT of the thorax showed a mass measuring 16 cm in width by 8 cm in depth with infiltration and compression of RV and RA with distortion of atrioventricular groove anatomy between RV and RA (figure 1).

Cardiac MRI confirmed a large heterogeneous mass anterior to RV infiltrating its inferior wall and confirming a distorted local anatomy of the atrioventricular groove.

The patient underwent a CT-guided biopsy and the tissue confirmed the diagnosis of B2 thymoma. His case was discussed at joint cardiothoracic surgery and respiratory multidisciplinary meeting and it was agreed to schedule the patient for conventional thymectomy considering the size of the mass.

The patient underwent median sternotomy, which revealed a highly vascular tumour invading the pericardium and surrounding mediastinal structures. It also extended to the right lung, innominate vein, aorta, RA and RV. As it was difficult to delineate and isolate for radical removal, debulking of the mass was performed. Histopathology of the excised mass demonstrated a thymoma, of mixed pattern B1 and B2 (figure 2A, B).

Perioperatively, the patient remained stable and was sent to the high-dependency unit for postoperative recovery, his postoperative period was uneventful and he was discharged to his local hospital on day 21 postoperatively in stable health.

Learning points
▸ Although a rarity, thymomas can invade cardiac structures and patients may present with heart failure.
▸ Careful imaging assessment of the mediastinal mass is necessary prior to surgical intervention.
▸ MDT inclusion for quality decision-making is imperative in the management and surgical intervention.
▸ Not all thymomas are resectable and this is very dependent on the operator’s experience and the extent of local invasion.

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Figure 1 Contrast CT scan of the chest (left) showing thymoma mass invading the right ventricle (RV) (arrow A), invading the right coronary artery origin (arrow B) and invading the right atrium (arrow C). Three-dimensional reconstruction of thymic mass and heart (right), (A) thymic mass infiltrating the heart and RV, (B) pulmonary vasculature, (C) aorta.

Figure 2 Histopathology slide showing fragments which are composed of thymoma which in areas shows a lymphoid dominant pattern B1 (A), while in the second slide (B) showing the epithelial-rich, lymphocyte-poor features of a B2 thymoma.