We present the case of a 54-year old man with a thymoma extending as tumour thrombus into the right atrium, via the thymic veins, the left brachiocephalic vein (LBV) and the superior vena cava (SVC) (Figs 1 and 2A). The thymoma was excised and a SVC and LBV thrombectomy was successfully performed on cardiopulmonary bypass (Fig. 2B).

Figure 1: Computed tomography (CT) scan of the chest. Axial image (A) shows a 2 × 3 cm mass in the anterior mediastinum and a tumour thrombus occluding the SVC and the azygos vein (arrows). On CT scan, the mediastinal mass does not have any connection either with the LBV or with the SVC. This unusual intravascular growth is due to the spread of the tumour into the LBV and SVC through the thymic veins, similar to some renal cell carcinomas extending via the renal vein and the inferior vena cava into the right atrium. Coronal image (B) clearly shows the intravascular extension of the mediastinal tumour into the SVC (arrow) and the right atrium.

Figure 2: Magnetic resonance imaging (T2-weighted image) of the chest (A) confirms the presence of a tumour thrombus of the SVC (arrow) protruding into the right atrium without any direct invasion of the SVC wall. The tumour thrombus was easily removed through a cavotomy and a pericardial patch was used at the venotomy site to prevent SVC stenosis. The postoperative course was uneventful. Histopathological examination showed a B3-Type (World Health Organization classification) stage III (Masaoka classification) thymoma. A postoperative CT scan of the chest (B) shows the patency of SVC (arrow).