A 50-year-old woman with progressive chest pain and shortness of breath (oxygen saturation 78%) was found on imaging to have a large anterior mediastinal mass. Biopsy suggested malignancy. The patient underwent pre-operative cardiac magnetic resonance imaging, which demonstrated posterior displacement of the aortic arch and pulmonary trunk by the tumor (A to C, Online Video 2; dotted line outlines vertebral body). The pulmonary trunk (straight arrow; asterisk represents right pulmonary artery) and left atrium (curved arrow) were markedly compressed (D to F, Online Videos 1, 3, 4, and 5).

In view of these findings, anesthesia was induced in the sitting position with the patient turned to the left to minimize vascular compression. Spontaneous ventilation was maintained until institution of extracorporeal membrane oxygenation via the groin.

A successful clamshell excision was undertaken, with final tumor dimensions of 170 mm × 180 mm × 100 mm. Histological diagnosis was atypical/malignant ossifying fibromyxoid tumor.

The patient has had considerable symptomatic improvement. No adjuvant therapy is planned and close follow-up is ongoing. eff = pericardial effusion.