Giant pseudoaneurysm of the ascending aorta after double-valve replacement

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A 47-year old man presented with a large chest swelling 10 months following aortic and mitral valve replacement. Computed tomography revealed a huge ascending aortic pseudoaneurysm (Fig. 1A and B). After establishing hypothermic circulatory arrest through an axillary-femoral bypass, a median sternotomy was performed. The defects were directly closed using two interrupted, pledgeted 4-0 Prolene sutures (Fig. 2A and B).

Figure 1: (A) A 13 × 16-cm mass formed over the upper left chest wall 10 months after mitral and aortic valve replacement, which was painful, pulsatile and swelling. (B) Contrast thoracic computed tomography revealed a 12.6 × 7.5 × 7.3-cm retrosternal pseudoaneurysm, which originated from the ascending aorta and eroded the sternum, ribs and subcutaneous tissue, forming a giant mass anterior to the sternum.

Figure 2: (A) Intraoperative photograph showing a huge cavity anterior to the sternum, which was filled with 200 g of clots; once the clots were removed, laminar ribs and sternum were revealed. (B) Two 0.5-cm-diameter defects ~1.5 cm above the aortic orifice were found on the right anterior surface of the aorta after evacuating all clots, coinciding with the previous aortotomy site (arrow).