


# Mediastinitis with aortic perforation after sternotomy

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A 55-year-old patient, after aortic valve replacement (AVR), mitral valve replacement (MVR), tricuspid valve replacement (TVR) in 1994, and repeat mitral valve replacement (re-MVR) and repeat tricuspid valve replacement (re-TV) in 2013, was admitted due to exacerbation of chronic heart failure (NYHA III/IV). On admission, transthoracic echocardiography (TTE) showed paravalvular leakage of the artificial mitral valve. During consultations it was decided to caulk the leakage. In the early postoperative period, signs of cardio-pulmonary insufficiency appeared, which was treated with the use of ECMO A-V; after the clinical state improved, it was removed. Later, inflammatory parameters started to increase, and fever broke out. Staphylococcus epidermidis had grown from an incision after the sternotomy; targeted antibiotic therapy was used. After initial improvement, bleeding from the incision appeared. Chest computed tomography (CT) with contrast revealed osteolytic changes of the sternum, aortic perforation 3,5 × 4 mm with pseudoaneurysm located in anterior mediastinum inserting between bony fragments of the sternum, and multiple lymph nodes. The patient was immediately qualified for surgery. Within the next few days, the patient's state deteriorated, and symptoms of multiple organ failure appeared. Despite the treatment, the patient died.

Inflammation of the mediastinum due to sternotomy incision infection is a relatively rare late

complication with morbidity up to 8%. Diagnosis is usually made based on clinical symptoms. Computed tomography is sensitive and complementary. It allows for confirming the diagnosis and assess potential complications of mediastinal inflammation, such as pericarditis, recurrent pneumonia, airway obstruction, aortic rupture or internal bleeding. In the case described above, computed tomography allowed us to visualise pseudoaneurysm, which is a rare complication and is associated with a high risk of death.

**Ethics statement:** Due to the fact that this is a retrospective study, Ethics Committee agreement was not required. This study was made accordingly to clinical indications.

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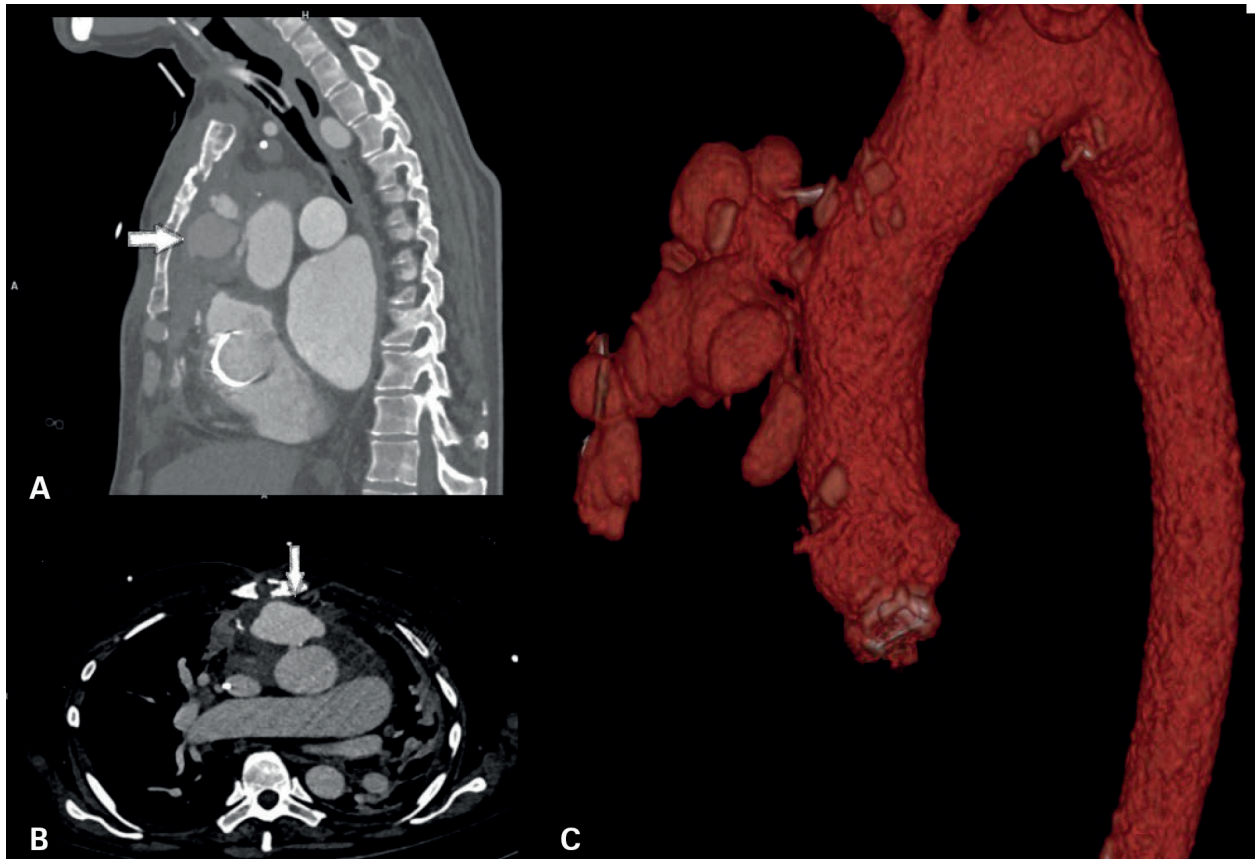
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**Figure 1.** A. Multiplanar reconstruction (MPR), sagittal section; B. Multiplanar reconstruction (MPR), transverse section; C. Volume rendering technique reconstruction (VRT); aortic pseudoaneurysm (white arrow)