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CASE REPORT

Iatrogenic aortic pseudoaneurysm: A forgotten complication☆

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Abstract Pseudoaneurysms of the ascending aorta are a rare complication of cardiac surgery. However, the poor prognosis associated with this condition if untreated makes early diagnosis and treatment important.

We present the case of a 66-year-old woman who had undergone mitral valvuloplasty 12 days previously, who was admitted with a diagnosis of new-onset atrial fibrillation.

The transthoracic echocardiogram showed a thrombus in the right atrium and anticoagulation was initiated, followed by antibiotic therapy.

After further investigation, the patient was diagnosed with a pseudoaneurysm of the ascending aorta and underwent surgical repair, followed by six weeks of antibiotic therapy.

She was readmitted six months later for an abscess of the lower sternum and mediastinum. After a conservative approach with antibiotics and local drainage failed, recurrence of a large pseudoaneurysm compressing the superior vena cava was documented. A third operation was performed to debride the infected tissue and to place an aortic allograft. There were no postoperative complications.

PALAVRAS-CHAVE
Pseudoaneurisma da aorta ascendente;
Valvuloplastia mitral;
Complicação pós-cirurgia cardíaca

Pseudoaneurisma iatrogénico da aorta ascendente: uma complicação esquecida

Resumo O pseudoaneunisma da aorta ascendente é uma complicação rara da cirurgia cardíaca. A sua elevada mortalidade torna importante o seu diagnóstico atempado e intervenção precoce.

Os autores apresentam o caso de uma doente do sexo feminino, submetida a valvuloplastia mitral 12 dias antes, internada com o diagnóstico de fibrilhação auricular com resposta ventricular rápida.

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O ecocardiograma transtorácico inicial mostrou imagem sugestiva de trombo na aurícula direita, iniciou-se anticoagulação, seguida de terapêutica antibiótica.

Investigação adicional com recurso a TC de tórax com contraste endovenoso permitiu concluir que se tratava de um pseudoaneurisma da aorta ascendente, pelo que a doente foi submetida a correção cirúrgica do mesmo, seguida de seis semanas de terapêutica antibiótica dirigida.

A doente foi reinternada seis meses depois por abcesso na porção inferior do externo e mediastino. Após falha da terapêutica conservadora, com antibiótico e drenagem local, com agravamento clínico da doente, documentou-se reaparecimento de pseudoaneurisma de grandes dimensões com compressão da veia cava superior. Foi então submetida a terceira intervenção cirúrgica com desbridamento do tecido infetado e implantação de homoenxerto aórtico. O pós-operatório decorreu sem intercorrências.

Introduction

Pseudoaneurysms of the ascending aorta are a rare complication of cardiac surgery. The seriousness of this condition is demonstrated not only by its potentially fatal consequences but also by the complexity and frequent complications of surgical repair.[1]

The authors present a case that illustrates the diagnostic challenge of aortic pseudoaneurysm in the absence of typical symptoms following a surgical procedure rarely associated with this complication.

Case report

A 66-year-old woman came to the emergency department (ED) due to sudden onset of dizziness, tachycardia and hypotension. She had a history of severe mitral regurgitation and congestive heart failure, and had undergone mitral valve repair with rigid ring annuloplasty and pericardial closure 12 days previously. The immediate postoperative period had been uneventful except for a self-limited episode of atrial fibrillation with rapid ventricular rate, and the patient was discharged on the seventh day after surgery under oral anticoagulation (initiated two days after surgery). Transthoracic echocardiography (TTE) after the operation and chest X-ray at discharge showed no abnormalities.

In the ED, the patient was diagnosed with atrial fibrillation with rapid ventricular rate (120 bpm). She remained asymptomatic, and was medicated with intravenous amiodarone, resulting in conversion to atrial flutter with a ventricular rate of 105 bpm.

TTE (Figure 1) excluded mitral ring dysfunction or residual regurgitation, and showed good global systolic function; a hyperechogenic image was observed on the right atrial roof measuring 3.3 cm × 2 cm, which was interpreted as a thrombus.

Anticoagulation was initiated with enoxaparin (60 mg twice daily) and the dosage of acenocoumarol was titrated to achieve an INR of 2–3 (INR was below therapeutic levels at admission).

Twelve days later, the patient developed a fever, accompanied by elevation of inflammatory parameters. Following etiological investigation she was medicated with

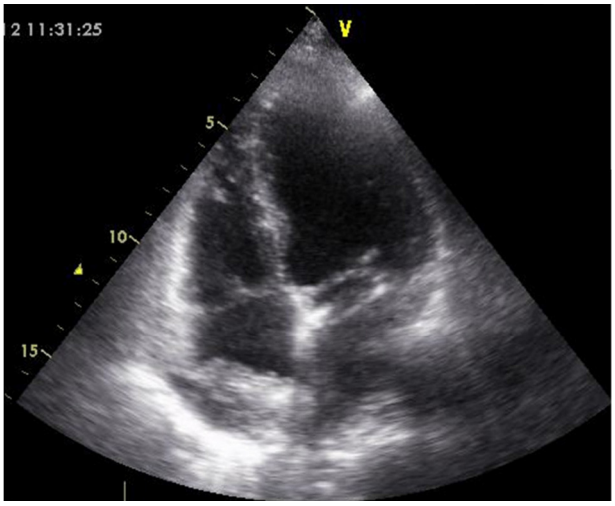

Figure 1 Initial assessment by transthoracic echocardiography (apical 4-chamber view), showing a heterogeneous echodense image (3 cm × 2.2 cm) adhering to the right atrial roof, interpreted as a thrombus.

piperacillin–tazobactam on the basis of a presumed diagnosis of mediastinitis.

Serial TTE continued to show similar results, and so thoracic computed tomography (CT) was performed, which revealed a pseudoaneurysm (4.5 cm × 4.5 cm × 8 cm) on the anterior wall of the ascending aorta, probably originating at the cannulation site (Figure 2).

The patient underwent surgical repair of the pseudoaneurysm with femorofemoral cardiopulmonary bypass (CPB) and cooling to 16 °C, followed by median resternotomy. Suture dehiscence was observed at the site of previous aortic cannulation, contained by the pericardium and posterior sternal wall, together with a probable local infectious process. Under circulatory arrest, the pseudoaneurysm was resected and the aorta was closed with a pericardial xenograft.

The postoperative period was again uneventful, inotropic support being discontinued and the patient being extubated 12 hours after the procedure.

Microbiological analysis of the pseudoaneurysm isolated *Pseudomonas aeruginosa* but all blood cultures before and after the surgical intervention were negative. Intravenous