

Dehiscence of a mechanical aortic valve due to endocarditis complicated with cardiogenic shock and an embolic event: a case report

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Introduction: Prosthetic valve endocarditis (PVE) is a serious condition commonly caused by bacterial microorganisms in patients with a mechanical or biological valve prosthesis that can lead to complications such as abscess, valve dehiscence, paravalvular regurgitation, heart failure, conduction disturbance, as well as embolic events and multiorgan failure.^{1,2}

Case report: 52-year-old male, who had surgical aortic valve replacement with a mechanical prosthesis two years earlier due to complications of the bicuspid aortic valve, presented to the emergency department with shortness of breath at rest. During the last three weeks, he had fever, chills, cough, fatigue, myalgias, dyspnea, and exertion intolerance, along with weight loss. He was taking two antibiotics at home, but his condition was gradually worsening. Clinically, he was somnolent, pale, orthopnoic, hypotensive, and respiratory insufficient, with an auscultatory precordial diastolic murmur and mechanical valve sound, as well as bilateral lung crepitations and leg edema. The 12-lead electrocardiogram showed PR interval prolongation with a left bundle branch block. Laboratory findings indicated a septic condition with a myocardial injury. The chest radiography showed pulmonary edema with cardiomegaly. Echocardiography revealed severe prosthetic aortic paravalvular regurgitation with dehiscence greater than 50% of the prosthetic valve circumference (in aortic short-axis view). The left ventricle was dilated with an ejection fraction of 35%. The empirical antibiotic treatment for late PVE was administered promptly. All blood cultures were negative for bacterial infection. He was accepted for urgent valve replacement surgery, but his hemodynamic and neurological status rapidly deteriorated. The patient developed status epilepticus. A cranial CT scan revealed multiple acute and subacute ischemic lesions. Additionally, he had postictal respiratory failure, hypotension, bradycardia, and renal shutdown. Despite treatment measures, the patient died within 96 hours of admission in refractory cardiogenic and septic shock with respiratory insufficiency caused by mechanical and systemic complications of prosthetic valve endocarditis.

Conclusion: PVE represents the most serious form of infective endocarditis.^{1,2} Embolism to the brain is a relatively frequent occurrence in patients with infective endocarditis that is associated with increased in-hospital mortality and morbidity as well as shortened long-term survival.^{1,3}

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LITERATURE

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