

Early-onset prosthetic valve endocarditis caused by *Staphylococcus aureus* leading to perforated periaortic abscess and stroke

Perfore periaortik apse ve inmeye yol açan Staphylococcus aureus'un neden olduğu erken başlangıçlı prostetik kapak endokarditi

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A 34-year-old man was admitted our hospital due to sub-febrile episodes (37.8 °C). He also suffered from an episode of loss of consciousness. He underwent elective replacement of mechanical prosthetic aortic valve three months ago and his postoperative recovery was unremarkable. He had a systolic murmur and intensity 3/6 at the right cardiac base. He immediately underwent transthoracic echocardiography which revealed severe aortic stenosis with a mean gradient of 45 mmHg, severe aortic paravalvular regurgitation, and a suspicious mass with high echogenicity. We proceeded with transesophageal echocardiography study which revealed abscess cavity in the paravalvular area next to left atrium (Figure 1a). We noticed a perforation tunnel opened to left ventricular outflow tract with severe aortic regurgitation (Figure 1b). Furthermore, we confirmed that there was a mobile echogenic mass reaching 11x8 mm in size. His cranial magnetic resonance showed bilateral ischemic infarction. The blood cultures revealed methicillin-susceptible *Staphylococcus aureus*. The patient received triple antibiotherapy and was referred for an emergency aortic valve replacement. A written informed consent was obtained from the patient.

During surgery, there was no dehiscence from the aortic valve ring. However, we noticed paravalvular aortic abscess located in the aorta-mitral intersection under the left coronary cusp. The aortic abscess cavity material was drained to the left ventricular outflow tract (LVOT) via a perforation hole reaching 2 mm in diameter (Figure 2a). Furthermore, we detected a vegetative tissue which caused severe obstruction in

the LVOT. All of vegetative tissue, abscess cavity and mechanical valve were removed and LVOT and left ventricle were irrigated with solution of vancomycin (Figure 2b). A mechanical St. Jude No 21 valve (St. Jude Medical, Inc., St. Paul, MN, USA) was implanted using 4.0 polypropylene bovine pericardial

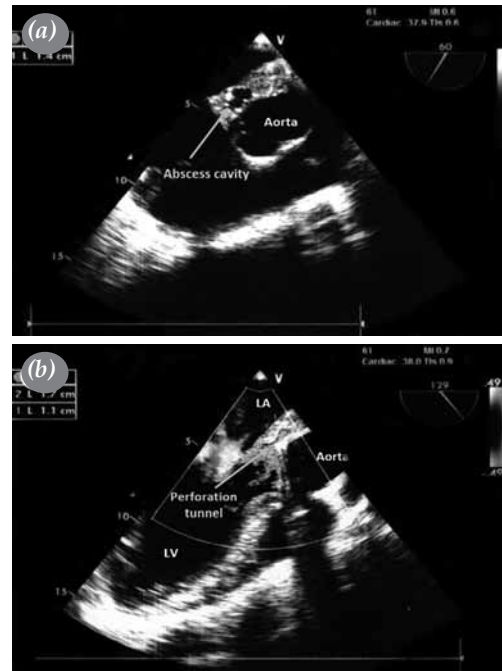


Figure 1. (a) Transesophageal echocardiography showing abscess cavity in the paravalvular area next to left atrium and (b) a perforation tunnel drained to left ventricular outflow tract with severe aortic regurgitation.



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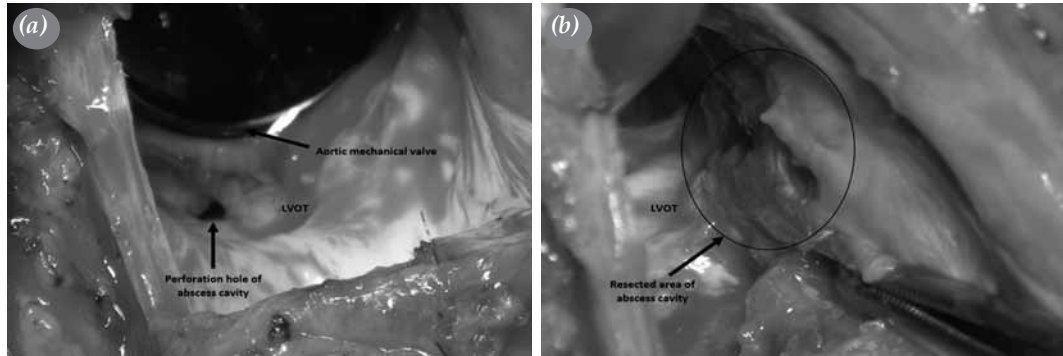


Figure 2. Images showing perforation hole reaching 2 mm diameter in the left ventricular outflow tract and resected area of abscess cavity in the left ventricular outflow tract.

pledgeted U-stitches by leaving pledgeted under the valve at the left ventricle side. The patient was discharged with neurological sequelae three weeks later.

Despite the tremendous advances in medical therapy over the past few decades, prosthetic valve endocarditis remains a catastrophic disease and is associated with increased morbidity and mortality.^[1] Recently, Anguera et al.,^[2] revealed that morbidity and mortality were similar for patients with fistulous tract formation and patients with non-ruptured cavities, confirming that despite the higher rate of in-hospital complications, fistulous tract formation in the current era of high rates of surgical therapy is not an independent risk factor for mortality. Furthermore, they were unable to detect any relationship between mortality and the severity of aortic regurgitation.

Currently, usually accepted surgical strategy to treat aortic prosthetic valve endocarditis accompanied by abscesses consists of radical debridement of infected tissue to obtain non-infective tissue and to avoid recurrent and residual infection.^[3] This case emphasizes the value of early diagnosis in the

presence of a high clinical suspicion of prosthetic valve endocarditis.

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