

# Ross procedure in a young adult patient with prosthetic aortic valve endocarditis

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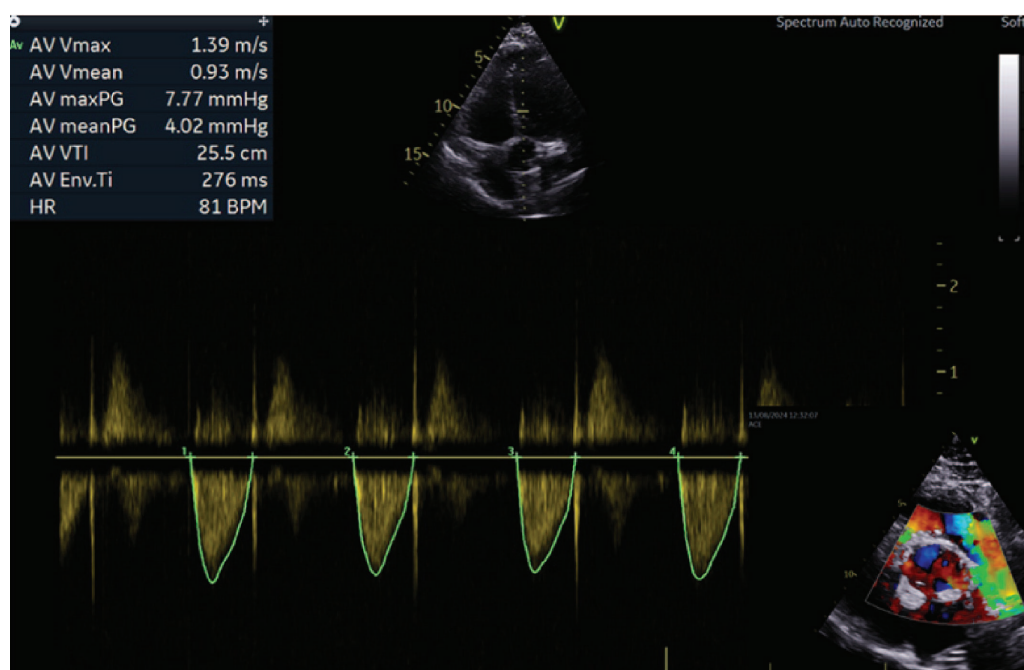
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**Introduction:** Prosthetic aortic valve endocarditis (PVE) in young adults represents a life-threatening condition and a challenging clinical scenario for the heart team. PVE accounts for 20 - 30% of all cases of infective endocarditis (IE), occurring in 1-6% of patients with valve prosthesis with an incidence of 0.3-1.2% per patient-year.<sup>1</sup> In observational real-world studies, there is an increasing rate of PVE. Currently, there are no clear guidelines on the choice of valve substitute in PVE. In the contemporary era, the Ross procedure performed in specialized centers emerges as an intriguing option for young adults, offering survival benefit compared to prosthetic aortic valve replacement (AVR).<sup>2</sup> However, this procedure is rarely performed in the context of IE, and there is only a paucity of cases reported in the setting of PVE.<sup>3</sup>

**Case report:** We present a case of a 26-year-old man with endocarditis of biological aortic valve prosthesis. His past medical history included balloon dilatation of a native bicuspid aortic valve at 15 years of age. A year later, mechanical AVR with an ATS 20 mm valve was performed. However, early in the postoperative course, ECG changes necessitated reoperation with successful Trifecta 19 mm prosthesis implantation. His blood cultures were positive for *Granulicatella adiacens*, a rarely found Gram-positive variant of *Streptococcus species*. Transesophageal echocardiography showed severe structural valve deterioration with a peak gradient of 81 mmHg with 10 mm vegetation and raised

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**FIGURE 1.** Intraoperative transesophageal echocardiography showing excellent hemodynamic profile of the autograft.

suspicion of para-prosthetic aortic root abscess in the non-coronary sinus. Computerized tomography coronary angiogram excluded coronary artery disease and revealed an abscess in the area of the non-coronary sinus. Following the explantation of the biological prosthetic valve and meticulous debridement of all infected tissues in the aortic annulus, a full-root Ross procedure was performed. The postoperative course was uneventful. One year follow-up revealed the excellent hemodynamic profile of the autograft with a peak gradient of 7 mmHg and no regurgitation (**Figure 1**).

**Conclusion:** Ross procedure can be performed in experienced centers in the setting of PVE in selected patients. Although it is a complex procedure, Ross offers a living valve substitute and excellent hemodynamic performances.<sup>4</sup>

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