

Transcatheter aortic valve implantation without on-site cardiac surgery – first experience at General Hospital “Dr Josip Benčević”, Slavonski Brod

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Introduction: The incidence of severe aortic stenosis is rising with population aging. Once symptomatic, the disease carries a poor prognosis if left untreated¹. Transcatheter aortic valve implantation (TAVI) provides a less invasive alternative to surgery, improving survival and quality of life in high-risk or inoperable patients. Common complications can be effectively managed in regional centers, while emergency surgery is rarely required (<0.5%)^{2,3}. In 2025, a structured institutional TAVI program was initiated at the General Hospital “Dr Josip Benčević”, Slavonski Brod, in collaboration with the University Hospital Centre Rijeka, based on a multidisciplinary heart team approach and formal surgical backup.

Patients and Methods: A retrospective, single-center analysis was performed using the institutional database. Demographic data, comorbidities, chronic therapy, echocardiographic parameters, procedural details, and in-hospital complications were descriptively analyzed. Functional status was assessed using the NYHA classification.

Results: A total of twenty patients (mean age 79 years, 55% male) with severe aortic stenosis underwent TAVI procedures at our institution. All patients were symptomatic, with 65% presenting with advanced symptoms (NYHA class III–IV). The mean transvalvular pressure gradient was 55.4 mmHg, with an average LVEF of 57%. The most common comorbidities were hypertension (95%), hyperlipidemia (90%), and diabetes mellitus (50%), while prior myocardial infarction and coronary artery bypass graft were present in 30% and 15% of patients. Right femoral access was used in 85% of cases, with balloon predilatation in 80%. The 29 mm Evolut valve was the most implanted (75%), with all implantations achieving procedural success. Vascular access complications occurred in two patients, both requiring vascular surgery. One in-hospital death occurred 48 hours post-TAVI due to retroperitoneal hematoma in an 88-year-old woman with low BMI receiving chronic anticoagulation therapy. Conduction disturbances occurred in five patients, requiring permanent pacemaker implantation in two. One case of cardiac tamponade was successfully managed with pericardiocentesis.

Conclusion: Our initial experience shows that TAVI without on-site cardiac surgery can be safely performed in well-prepared regional centers with multidisciplinary support and surgical backup. Such programs improve access and outcomes for high-risk patients, while continued team training and optimized patient selection remain essential.

LITERATURE

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