

# Clinical characteristics of patients with aortic valve stenosis treated by conventional surgery and transcatheter valve implantation

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**Objective:** To present basic clinical characteristics and comorbidities of patients with severe aortic valve stenosis and to determine the differences between those treated with surgical valve replacement (SAVR) and transcatheter valve implantation (TAVI) during 2021 at University Hospital of Split.

**Patients and Methods:** A total of 144 patients were included in this observational retrospective study. Age, gender, European System for Cardiac Operative Risk Evaluation (EuroSCORE II), the New York Heart Association (NYHA) stage, comorbidities, cardiac bypass, percutaneous coronary intervention, laboratory parameters, days of hospitalization and ultrasound parameters were analyzed.

**Results:** Out of a total of 144 patients hospitalized with a diagnosis of severe aortic stenosis, 93 (65%) underwent TAVI, and 51 (35%) underwent SAVR. In both groups, men predominated, in the TAVI group 56%, and in the SAVR group 69% of patients. Basic demographic, anamnestic, laboratory and ultrasound parameters in relation to the performed procedure show that TAVI patients are older, have decreased renal function and more comorbidities. A statistically significant difference was found in hospitalization days after the procedure ( $P < 0.001$ ; median TAVI 4 days, SAVR 19 days). Among TAVI patients, a higher number of previous coronary artery bypass graft (CABG) was found in the younger age group  $\leq 75$  years ( $P = 0.033$ ). Patients undergoing SAVR aged  $\geq 65$  years had a significantly higher operative risk ( $P = 0.006$ ), higher NYHA status ( $P = 0.040$ ) and lower glomerular filtration ( $P = 0.003$ ) compared to the age group  $< 65$  years. Patients undergoing SAVR and CABG in the same act have a much higher operative risk ( $P = 0.003$ ) and a longer hospitalization ( $P < 0.001$ ).

**Conclusion:** The age distribution of patients treated with TAVI and SAVR is in accordance with treatment recommendations. No significant difference in patient characteristics was demonstrated depending on the choice of method. Very fast recovery and improvement of hemodynamic parameters after TAVI procedure has been proven. A third of the patients were between the ages of 65 and 75, there was no significant difference in the choice of method or the characteristics of patients of that age, which confirms the spread of TAVI in younger and low-risk patients<sup>1,2</sup>.

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## LITERATURE

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