

Physician - Valvular Diseases and Surgery

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Postoperative Early- to Mid-Term Results of the Ozaki Procedure Applied to Aortic Valve Pathologies

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Objective: This study aimed to evaluate our early- to mid-term results with the aortic valve neocuspidization technique (Ozaki procedure) in aortic valve pathologies.

METHOD: This study retrospectively examined the data of 243 patients (172 males, 71 females; mean age: 53.11 ± 18.3 years; range, 17 to 82 years) who underwent the Ozaki procedure between February 2019 and August 2024.

Results: The primary pathology was aortic insufficiency in 52 (21.3%) patients and aortic stenosis in 201 (82.7%) patients. The aortic valve morphology was trileaflet in 196 (80.6%) patients, bileaflet in 44 (18.1%) patients, unicuspid in two (0.8%) patients, and quadricuspid in one (0.4%) patient. Additional cardiac surgical procedures were performed on 99 (40.7%) patients. Preoperative echocardiographic findings in patients with aortic stenosis showed a peak gradient of 91.39 ± 33.1 mmHg and a mean gradient of 54.9 ± 18.3 mmHg. The mean cross-clamp time was 110.2 ± 35.6 min, while the cardiopulmonary bypass time was 141.2 ± 39.6 min. Postoperative echocardiographic findings showed significant improvement in peak and mean gradients at six months (18.3 ± 6.2 and 8.9 ± 2.4 mmHg) and one (15.6 ± 5.7 and 8.7 ± 3.5 mmHg), two (14.2 ± 4.7 and 7.7 ± 2.5 mmHg), three (13.69 ± 3.8 and 6.4 ± 3.7 mmHg), and four (12.4 ± 3.8 and 6.3 ± 2.4 mmHg) years.

Conclusion: Aortic valve neocuspidization is a viable technique for all aortic pathologies. It offers advantages such as achieving good hemodynamics postoperatively, avoiding anticoagulant medications, and allowing additional surgical procedures.

Keywords: Aortic valve surgery, aortic valve repair, autologous pericardium, Ozaki procedure.