

Physician - Valvular Diseases and Surgery

[MSB-30]

Clinical Outcomes of Bicuspid Aortic Valve Pathologies Treated with Tricuspidization Using the Ozaki Procedure

Furkan Burak Akyol, Tayfun Özdem, Mehmet Emin Varol, Tuna Demirkıran, Yiğit Tokgöz, Emre Kubat, Murat Kadan, Kubilay Karabacak

Department of Cardiovascular Surgery, Health Sciences University, Gülhane Training and Research Hospital, Ankara, Türkiye

Cardiovascular Surgery and Interventions 2024;11(Suppl 1):MSB-30

Doi: 10.5606/e-cvsi.2024.msb-30

E-mail: mevarol06@gmail.com

Received: September 12, 2024 - Accepted: September 29, 2024

Objective: This study aimed to share early- and mid-term results in patients with bicuspid aortic valve (BAV) disease who underwent tricuspidization with the Ozaki procedure.

METHOD: The data of 44 patients (32 males, 12 females; mean age: 51.47 ± 15.18 years) diagnosed with BAV who underwent tricuspidization with the aortic valve neocuspidization technique between February 2019 and July 2024 were retrospectively analyzed.

Results: Additional surgical procedures were performed on 21 (47.72%) patients with BAV morphology. Echocardiographic measurements showed a significant reduction in preoperative peak and mean aortic valve pressures at one and 12 months. In patients who underwent simultaneous surgical procedures, the mean aortic cross-clamp time was 111 ± 29.7 min, and the mean cardiopulmonary bypass time was 153 ± 43.9 min. For isolated BAV defects, the mean aortic cross-clamp and cardiopulmonary bypass times were 89.9 ± 19.5 and respectively. During the follow-up period, no patient required mechanical aortic valve replacement. One patient required pacemaker implantation on the seventh postoperative day due to the development of a third-degree atrioventricular block. In one patient, an ischemic cerebrovascular event occurred in the early postoperative period.

Discussion: Although aortic valve neocuspidization requires experience, the application of standardized procedures allows for successful outcomes in BAV defects through the tricuspidization procedure. The tricuspidization procedure provides a more physiological structure and excellent hemodynamic performance of the aortic valve.

Keywords: Autologous pericardium, bicuspid aortic valve, Ozaki procedure, tricuspidization.

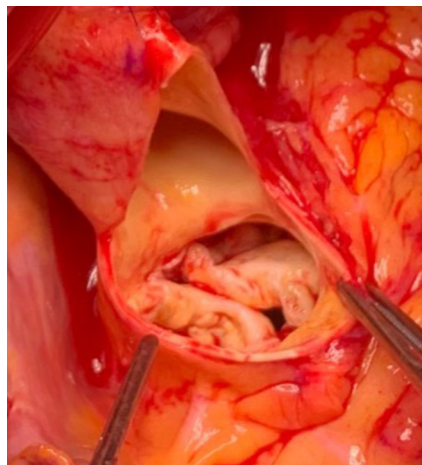


Figure 1. An image of aortic stenosis due to bicuspid aortic valve.



Figure 2. An image of a resected aortic valve.



Figure 3. An image of tricuspidization using the Ozaki procedure.

References

1. Karabacak K, Kubat E, Erol G, Kadan M, Akyol F, Hacızade E, et al. Aortic Neocuspidization with Autologous Pericardium: Initial Experience of Single Center. *WJCS* 2021;11:51-60. doi: 10.4236/wjcs.2021.116008.
2. Karabacak K, Kubat E, Kadan M, Asil S, Erol G, Demirkiran T, et al. Aortic valve neocuspidization procedure provides better postoperative outcomes when compared to rapid deployment aortic valves. *Heart Surg Forum* 2023;26:E013-9. doi: 10.1532/hsf.5149.
3. Ozaki S, Kawase I, Yamashita H, Uchida S, Nozawa Y, Takatoh M, et al. Reconstruction of bicuspid aortic valve with autologous pericardium--usefulness of tricuspidization. *Circ J* 2014;78:1144-51. doi: 10.1253/circj.cj-13-1335.