

Aortic valve neocuspidization using autologous versus bovine pericardium: Ozaki versus Batista

Matti Jubouri¹, Sven Zhen Cian Tan², Mohammed Idhrees³, and Mohamad Bashir⁴

¹Hull York Medical School

²Queen Mary University of London Barts and The London School of Medicine and Dentistry

³SRM Institutes for Medical Science Vadapalani

⁴NHS Wales Health Education and Improvement Wales

July 28, 2022

Abstract

Background: The average living age of the population is constantly increasing and so is the incidence and prevalence of aortic valve disease. Surgical aortic valve replacement (SAVR) is the current gold standard treatment. Nevertheless, the use of prosthetic valves in SAVR is associated with issues that impact patients' quality of life. Aortic valve neocuspidization (AV Neo) offers a means to solve this dilemma by minimising foreign valve tissue. AV Neo can either be performed using glutaraldehyde-treated autologous pericardium (Ozaki procedure) or bovine pericardium (Batista procedure). **Aims:** This commentary aims to discuss the recent study by Chan and colleagues which highlighted the surgical approach, clinical outcomes and limitations of the Ozaki procedure, and compare this to the Batista procedure. **Methods:** A comprehensive literature search was performed using multiple electronic databases including PubMed, Ovid, Embase and Scopus in order to collate the relevant research evidence. **Results:** Although the Ozaki procedure can achieve favourable results whilst mainly avoiding the need for life-long oral anticoagulation with mechanical valves, it still has several limitations that may hinder results. AV Neo using glutaraldehyde-treated bovine pericardium, developed by pioneer cardiac surgeon Dr. Randas J. Vilela Batista, yields superior clinical outcomes to Ozaki's, including excellent survival, lower complications and minimal need for reoperation as well as shorter operative times. **Conclusion:** AV Neo offers a means to perform SAVR whilst escaping the prosthetic valve issues. However, the Batista procedure has shown beyond doubt that it can be considered the superior approach for AV Neo over the Ozaki procedure.

Hosted file

Final Commentary.docx available at <https://authorea.com/users/445492/articles/578837-aortic-valve-neocuspidization-using-autologous-versus-bovine-pericardium-ozaki-versus-batista>