

52nd CARDIOCON 2023: ABSTRACT**CLINICAL CHARACTERISTICS AND LONG-TERM OUTCOME OF PATIENTS WITH BIO-PROSTHETIC MITRAL VALVE – EXPERIENCE FROM A SOUTH ASIAN COUNTRY****Aiysha Nasir¹, Fateh Ali Tipoo Sultan¹, Rizwan Ali Khawaja¹, Muhammad Ahmed Tamiz¹**
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Objectives: The aim of this study is to evaluate clinical characteristics and long-term outcome of the patients with bio-prosthetic mitral valve replacement at a tertiary care hospital of a South Asian country.

Methodology: The study is a retrospective observational study involving patients who underwent bio-prosthetic mitral valve replacement at a tertiary care hospital in Karachi, Pakistan, between 2006 and 2020, and had at least two complete echocardiograms. Patients with incomplete clinical data, no electronic reports of echocardiograms, and mechanical mitral valve replacement were excluded.

Results: This is a retrospective observational study, conducted at a tertiary care hospital. We included a total of 502 patients who underwent bio-prosthetic mitral valve replacement from the year 2006 to 2020. Patients were divided into two groups based on normal functioning bio-prosthetic mitral valve and bio-prosthetic mitral valve dysfunction (BMVD). Out of 502 patients, 322 (64%) were female, mean age at the time of surgery was 49.42 ± 14.56 years. Mitral regurgitation was more common, found in 279 (55.6%) patients followed by mitral stenosis in 188 (37.5%) patients. Mitral valve replacement was done as an elective procedure due to NYHA II to IV symptoms at the time of surgery in 446 (88.8%) patients. In the mean follow-up of 6.59 ± 2.99 years, bio-prosthetic mitral valve dysfunction (BMVD) was observed in 183 (36.5%) patients. However, re-do mitral valve surgery was done in only 49 (9.8%) patients. Comparing the two groups, individuals with normal functioning bio-prosthetic mitral valve had a mean age of 51.6 ± 14.27 years, while those with BMVD had a mean age of 45.639 ± 14.33 years at the time of index surgery (p value=0.000). There were more long-term complications including heart failure ($n = 16$, 8.74%), atrial fibrillation ($n = 11$, 6.01%) and death ($n = 6$, 3.28%) in BMVD group which were statistically significant.

Conclusion: This study is distinct because it demonstrates the outcomes of bio-prosthetic valve replacement in a relatively younger South Asian population. Due to rapid degeneration of bio-prosthetic valve in younger patients, a significant number of cases developed BMVD along with poor long-term clinical outcomes even at a short follow up period of less than ten years. These findings are like international data and signify that mechanical mitral valve replacement may be a more reasonable alternative in younger patients.

Keywords: Mitral valve replacement, Bio-prosthesis, Mitral valve stenosis

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