

## Common predisposing factors in mortality of patients after undergoing mitral valve surgery at a tertiary care hospital in Karachi

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**Background:** Isolated mitral valve replacement is a routinely performed procedure at our institute due to higher prevalence of rheumatic heart disease in every age category. Hardly any researches are available that dictate the predictors of surgical mortality in isolated mitral valve procedure. The aim of this study was to identify the most prevailing pre-operative factors in patients who had mortality after isolated mitral valve surgery.

**Methodology:** A retrospective observational study of two years was performed from January 2018 to December 2019 at the Adult Cardiac Surgery Department of a tertiary care cardiac center in Karachi, Pakistan. Patients of either gender of age ranging from 16 to 65 years who had mortality within 30 days after isolated mitral valve surgery were included in the study. Variables assessed from records were anemia, New York Heart Association (NYHA) functional classification, prolonged symptoms, poor nutritional status, degree of left ventricular (LV) dysfunction, valve pathology, pulmonary artery hypertension, and cardiac arrhythmias.

**Results:** We report our isolated mitral valve mortality rate of 5.5% (38/697) in the two-year duration. The most commonly encountered pre-operative factors were severe mitral regurgitation and pulmonary artery hypertension, which were observed in 32 (84.2%) and 23 (60.5%) patients, respectively. Other factors that were common to these patients were higher NYHA functional class (class III in 23 [60.5%] and class IV in 9 [23.7%]), prolonged duration of symptoms (20 [52.6%]), and right ventricular dysfunction (moderate in 21 [55.3%] and severe in 7 [18.4%]).

**Conclusions:** The outcome of our study suggests that severe mitral regurgitation, pulmonary artery hypertension, high NYHA functional class, LV dysfunction, and prolonged symptoms were the common predisposing factor in patients with peri-operative mortality after isolated MVR.