**A study of Clinical Profile and in Hospital Outcomes of patients undergoing Percutaneous Transvenous Mitral Commissurotomy at a Tertiary Care Center of Nepal**

**Abstract**

**Introduction**

[Rheumatic heart disease](https://www.sciencedirect.com/topics/medicine-and-dentistry/rheumatic-heart-disease) (RHD), is a common cause of [mitral stenosis](https://www.sciencedirect.com/topics/medicine-and-dentistry/mitral-valve-stenosis) (MS) in developing nations. As per current recommendation, Percutaneous Transvenous [Mitral Commissurotomy](https://www.sciencedirect.com/topics/medicine-and-dentistry/mitral-valve-commissurotomy) (PTMC) is advised as a Class IA (I-Class Of Recommendation, COR; A-Level Of Evidence, LOE) indication [in patients](https://www.sciencedirect.com/topics/medicine-and-dentistry/inpatient) with symptomatic severe mitral stenosis. We aim to examine the clinical profile and in-hospital outcomes of PTMC for severe mitral stenosis.

**Methods**

A cross-sectional retrospective study was conducted at Manmohan Cardiothoracic Vascular and Transplant Center from April 2020 to May 2022. A structured questionnaire was used to collect the data and ethical approval for conducting the study was taken from the Institutional Review Committee (IRC) of Institute of Medicine (IOM). The data was collected in Microsoft Excel (Ver. 2013). For statistical analysis, SPSS 21 (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.) Association was measured using a parametric and non-parametric test (depending upon the distribution of data) and p value < 0.05 was considered significant.

**Results**

A total of 104 patients who met the inclusion criteria underwent PTMC during the study period. The mean age group of the patient was 41.7 ± 12.5 years, of which 23 (22.1%) were males and 81 (78.9%) were females. Mean [mitral valve](https://www.sciencedirect.com/topics/medicine-and-dentistry/mitral-valve) area prior to PTMC was 0.98 ± 0.19 cm2 that increased to 1.69 ± 0.19 cm2 after the procedure and it was statistically significant (p=<0.001). The post PTMC MVA varied with PTMC Wilkin's score with less than or equal to 8 having favorable outcomes.

**Conclusion**

Successful PTMC is highly influenced by the patients' increasing age, valve morphology (calcification, thickness, mobility), Left atrial dimensions, Pre PTMC mitral valve area, Degree of Baseline [mitral regurgitation](https://www.sciencedirect.com/topics/medicine-and-dentistry/mitral-insufficiency). Post procedure development of MR is usually well tolerated but rarely be severe enough requiring surgical valve replacement.

Keywords: PTMC, Mitral stenosis, Outcomes, Mitral regurgitation, Mitral valve area, Nepal

*Abbreviations:*

PTMC: percutaneous transvenous mitral commissurotomy; AF: atrial fibrillation; BMV: balloon mitral valvotomy; CMC: closed mitral commissurotomy; LA: left atrium; LAP: left atrial pressure; MS: mitral stenosis; MVA: mitral valve area; MVR: mitral valve replacement; NSR: normal sinus rhythm; NYHA: New York Heart Association; OMC: open mitral commissurotomy; RHD: rheumatic heart disease; PA: pulmonary artery; PASP: pulmonary artery systolic pressure; TTE: Transthoracic Echocardiography; TEE: Transesophageal Echo; LVEF: Left ventricular ejection fraction; LVSD: Left ventricle systolic dysfunction; MI: Myocardial Infarction