

WORLD CONGRESS ON RHEUMATIC HEART DISEASE

2-4 November 2023 • Abu Dhabi



Submission Id: 48

Title: ECHOCARDIOGRAPHIC ASSESSMENT OF MITRAL VALVE BY WILKINS SCORING TO DETERMINE THE OUTCOME OF PERCUTANEOUS MITRAL BALLOON VALVULOPLASTY

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Background & Aims: Percutaneous transvenous mitral commissurotomy is an important therapeutic tool in treatment of mitral stenosis. First performed by K.Inoue in 1984 followed by Lock in 1985. Percutaneous transvenous mitral commissurotomy is considered as a best non surgical alternative treatment for mitral stenosis as majority of patients benefit immediately from this procedure.

Methods: All patients with valve area $<1.5\text{cm}^2$, pliable or border line pliable valve were included in study. Patients who had left atrium thrombus, severe mitral regurgitation, severe valvular calcification were excluded from study. Patients were evaluated clinically and echocardiographically 24 hours before and after procedure. Valve morphology was assessed using 2D echocardiography and transesophageal echocardiography and Wilkins scoring was applied. Wilkins' score's sensitivity and specificity and predictive accuracy at score >8 was also assessed. Mean was used to express quantitative data while qualitative data was presented using frequency tables. One-sample kolomogorov smirnov test was applied to see normality of data. Paired sample t-test was applied for normally distributed while Wilcoxon test for non-normally distributed data.

Results: There were 40(30.76%) male and 90 (69.23%) female with mean age 25.23 ± 18.40 years. Successful results of Percutaneous transvenous mitral commissurotomy with mitral valve area $\geq 1.5\text{cm}^2$ were obtained in 125 (96.15%) while it remained unsuccessful in 5 (3.84%) patients. Successful results with Wilkins score <8 were obtained in 32 (24.6%) and unsuccessful in 3 (2.3%) patient. While with Wilkin score ≥ 8 , it remained successful in 85(65.38%) and unsuccessful in 10(7.69 %) patients. Sensitivity and specificity of Wilkins score for the success of Percutaneous transvenous mitral commissurotomy was 24.78% and 96.42% respectively.

Conclusions: The success of Percutaneous transvenous mitral commissurotomy depends upon valve morphology. Wilkins score is the best determinant to predict the likelihood of success or failure of procedure and therefore should be used to select suitable patients prior to Percutaneous transvenous mitral commissurotomy .