

# WORLD CONGRESS ON RHEUMATIC HEART DISEASE

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**Title:** HEMODYNAMIC PARAMETERS ASSOCIATED WITH SEVERE RHEUMATIC MITRAL STENOSIS WITH LOW TRANSMITRAL GRADIENT

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**Background & Aims:** A mitral valve area (MVA)  $\leq 1$  cm<sup>2</sup> is considered very severe and generally has a transmitral gradient of  $>10$  mmHg. However, a discrepancy between MVA and the transmitral gradient in a clinical setting is not uncommon. Some patients with severe MS have a low transmitral gradient ( $\leq 10$  mmHg). Studies related to low transmitral gradients in MS are still few.

**Objective:** This study aims to determine the hemodynamic factors associated with a low transmitral gradient in severe rheumatic MS.

**Methods:** Rheumatic MS patients who underwent percutaneous transvenous mitral commissurotomy (PTMC) were included in the study. Invasive hemodynamic data during and echocardiography before the procedure were compared between the low gradient (LG) severe MS group and the high gradient (HG) severe MS group.

**Results:** Of 86 subjects, 36% had a low transmitral gradient. The average was  $46.5 \pm 10.41$  years, and 64.5% had atrial fibrillation rhythms. Based on multivariate analysis, the independent factors associated with an LG severe MS were net atrioventricular compliance  $>4$  mL/mmHg (OR 3.58, CI 95% 1.17- 10.96,  $p=0.025$ ) and systolic Pulmonary Artery Pressure  $> 45$  mmHg (OR 0.14, CI 95% 0.06 - 0.33,  $p < 0.001$ ).

**Conclusions:** Net atrioventricular compliance (Cn)  $> 4$  mL/mmHg was independently associated with LG severe MS, while systolic pulmonary arterial pressure  $> 45$  mmHg averted the occurrence of LG severe MS.