# ...eous balloon mitral valvotomy on pulmonary venous flow in severe mitral stenosis.

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**Abstract:**

OBJECTIVE: To study the effect of percutaneous balloon mitral valvotomy (PBMV) on the deranged systolic and diastolic pulmonary venous flows in mitral stenosis. DESIGN: Open, non-randomised, case-control study. SETTING: Mater Misericordiae Cardiac Catheterisation Laboratory and Kenyatta National Hospital Cardiac Catheterisation Laboratory. PATIENTS: Twelve consecutive patients with severe symptomatic mitral stenosis with valve characteristics suitable for PBMV on echocardiographic evaluation. INTERVENTION: Percutaneous baloon mitral valvotomy. MAIN OUTCOME MEASURES: Peak systolic and diastolic pulmonary flow velocities and velocity time integrals (VTI). RESULTS: Peak sytolic pulmonary flow velocity increased from 29.8 +/- 9.6 to 46.1 +/- 8.5 cm/s $p < 0.01$) and systolic VTI from 2.6 +/- 1.0 to 5.5 +/- 0.9 cm ($p < 0.01$). Peak diastolic flow velocity increased from 39.3 +/- 5.7 to 43.0 +/- 6.9 cm/s ($p < 0.05$) and diastolic VTI from 3.9 +/- 1.5 to 4.8 +/- 1.6 cm ($p < 0.05$). Mean mitral valve area increased from 0.65 +/- 0.15 to 1.98 +/- 0.34 cm2 ($p < 0.001$) and mean left atrial pressures from 30.5 +/- 9.1 to 11.9 +/- 5.1 mmHg ($p < 0.001$). CONCLUSIONS: In patients with severe mitral stenosis and sinus rythm, left atrial filling is biphasic with diastolic preponderance. Successful PBMV causes predominant increase in atrial systolic filling.