The aim of the present study was to examine the effect of aortic valve replacement (AVR) on left ventricular mass index (LVMi), CFR and clinical symptoms after a 1-year follow-up period in pts with significant AOS, normal coronary angiogram and normal resting left ventricular function. Patients and methods: Sixteen pts (9 women and 7 men; mean age 59±7) were enrolled into the study. All pts underwent 2 months before and 1 year after the AVR a complete transthoracic echo study and CFR measurement by transesophageal echocardiography (TEE). Coronary flow velocity was obtained by pulsed Doppler during TEE in the proximal left anterior descending artery. CFR was assessed with intravenous dipydramole (0.56 mg/kg over 4 minutes) as a vasodilator agent. CFR was calculated as the ratio of maximal averaged peak diastolic flow velocity (APV) divided by APV.

**Results:**
- Before AVR: 183±568
- After AVR: 126±631

**Takashi Muro, Minoru Yoshiyama, Junichi Yoshikawa, The great cardiac vein (GCV) anatomically runs parallel just beside the left ventricle. Currently, coronary arteries can be detected by transthoracic Doppler (TTD) technique. Many such patients appear to tolerate this severe injury to mitral apparatus well for a long time.**

**Conclusion:** In patients with aortic stenosis and normal coronary arteries, the symptom improvement 1 year after AVR is accompanied by the rise of CFR, possibly due to the reduction of LVMI.

**Physiological Severity of Total Occlusion in the Coronary Artery Detected by Transesophageal Doppler Echocardiography at Rest: Diastolic Reverse Coronary Flow Versus Exercise 201-Ti Single Photon Emission Computed Tomography**

- **Methods:** Study population was consisted of 15 patients with first anterior AMI who underwent TMC within 48 hours of the indexed procedure. A total of 16 (9 pts underwent MV surgery and 13 (group II) refused to undergo surgery. The 2 groups were similar with regard to age, baseline MV anisoechocardiography, the presence, and frequency and grade of pre-existing MI. The group II had patients with coronary gradients (9±5 mmHg) with no hemodynamic collapse. All except 1 pt in group I had test of the anterior mitral leaflet. No pt in group I had papillary muscle rupture and 1 pt had only posterior leaflet tear. In group II, 2 pts had tear of the anterior leaflet, 2 had tear of the posterior leaflet and the remaining 2 had both leaflet tear. Rupture of the papillary muscle was noted in 6 of these 13 pts. Pts in group II have been followed for 2 to 55 months (mean 27±11 months), of 2 of these patients have class II and one has class III symptoms. Of those with papillary muscle rupture, only one is significantly symptomatic. Rupture of mitral leaflets and for posterior papillary muscle as a cause of severe mitral regurgitation occurs in about 5% of pts following PTMC by the Inooa technique. Much such patients appear to tolerate this severe injury to mitral apparatus well for a long time.

**Comparison of Proximal Isoelectric Surface Area Method With Pressure Half Time Method for Evaluation of Mitral Valve Area in Patients Undergoing Balloon Mitral Valvuloplasty**

- **Methods:** Mitral valve area was calculated by 2-D planimetry, PHT and PISA methods. Mitral valve area was calculated by PISA method using continuity equation by the formula:

  \[
  \text{MVA} = \frac{(V_m \times r \times \pi)}{2 - \left(\frac{4 \times V_m \times r \times \pi}{Q_{sys}}\right)}
  \]

  where \(V_m\) is the peak velocity, \(r\) is the radial distance from the orifice and \(Q_{sys}\) the systolic flow. The PISA method was used to correct the orifice area subtended by leaflet tunnel as a result of leaflet doming.

**Results:** Ninety-two pts with optimal transthoracic echo window were included in the study. Satisfactory MVA was obtained by PISA method in 84 pts (91.4%) before MV and 72 patients (85.7%) after MV. The mean MVA calculated by PISA was 0.87 ± 0.154 cm² prior to BMV and 1.78 ± 0.272 cm² after BMV. Mitral valve area calculated by the PISA method correlated well with 2-D planimetry, PHT and PISA methods. Mitral valve area was calculated by PISA method using continuity equation by the formula:

  \[
  \text{MVA} = \frac{(V_m \times r \times \pi)}{2 - \left(\frac{4 \times V_m \times r \times \pi}{Q_{sys}}\right)}
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  where \(V_m\) is the peak velocity, \(r\) is the radial distance from the orifice and \(Q_{sys}\) the systolic flow. The PISA method was used to correct the orifice area subtended by leaflet tunnel as a result of leaflet doming.

**Comparison of Proximal Isoelectric Surface Area Method With Pressure Half Time Method for Evaluation of Mitral Valve Area in Patients Undergoing Balloon Mitral Valvuloplasty**

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**BACKGROUND:** Percutaneous valvuloplasty is the treatment of choice in patients with anatomic mitral stenosis and plaque-like valve. Pressure half time (PHT) method is unreliable for determination of mitral valve area (MVA) immediately after valvuloplasty. Proximal isoelectric surface area (PIA) method has been used to derive MVA in patients with mitral stenosis. The aim of our study was to compare PISA method with PHT method in patients undergoing percutaneous balloon mitral valvuloplasty (BMV).

**METHODS:** Mitral valve area was calculated by 2-D planimetry, PHT and PISA methods. Mitral valve area was calculated by PISA method using continuity equation by the formula:

  \[
  \text{MVA} = \frac{(V_m \times r \times \pi)}{2 - \left(\frac{4 \times V_m \times r \times \pi}{Q_{sys}}\right)}
  \]

  where \(V_m\) is the peak velocity, \(r\) is the radial distance from the orifice and \(Q_{sys}\) the peak velocity. A plane-angle correction factor (theta/100) was used to correct the orifice area subtended by leaflet tunnel as a result of leaflet doming.

**CONCLUSIONS:** The PISA method correlates well with 2-D planimetry in patients with mitral stenosis before and after BMV and is superior to PHT in the post BMV period. This method can be used reliably for assessment of MVA in patients undergoing BMV and who have suboptimal parasternal window.