

**RESULTS** The incidence of AKI was 9%, and patients with worse baseline renal function were at higher risk of developing AKI (OR: 1.32, 95% CI 1.09-1.61,  $p=0.004$  for each 10ml/min decrease in the glomerular filtration rate). In-hospital bleeding events occurred more frequently in the AKI group (5.3% versus 15.6%,  $p=0.037$ ). After a median follow-up of 18 months, patients in the AKI group had a higher mortality (HR 2.59, 95% CI 1.36-4.92,  $p=0.004$ ), more embolic events (HR 6.14, 95% CI 2.23-16.92,  $p=0.001$ ) and major bleeding events (HR 2.36, 95% CI 0.89-6.24,  $p=0.083$ ). The occurrence of AKI was an independent predictor of mid-term mortality (HR 2.00, 95% CI 1.02-3.91,  $p=0.044$ ).

**CONCLUSION** The occurrence of AKI is relatively frequent in patients undergoing LAAC, and patients with lower renal glomerular filtration rate were at high risk of developing this complication. Acute kidney injury was correlated with worse mid-term outcomes, highlighting the importance of further preventive strategies in this population.

## MITRAL VALVE

### CRT-700.46

#### Mitral Balloon Valvuloplasty: Risk Factors for Lack of Success, Severe Mitral Regurgitation and Major Complications



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**BACKGROUND** Mitral balloon valvuloplasty is not always successful and free from complications.

**OBJECTIVES** To determine the independent risk factors for an unsuccessful procedure, severe mitral regurgitation and major complications in mitral balloon valvuloplasty.

**METHODS** Longitudinal prospective study of 518 mitral balloon valvuloplasties performed between July 6, 1987 and December 31, 2004, on 429 (82.8%) female patients and 89 (17.2%) male patients with a mean age of 37.5±12.8 years. Major complications were considered to be perforation with cardiac tamponade, stroke and severe mitral regurgitation per procedure. The continuous variables were transformed in categorical variables and the chi-square or Fisher exact tests to compare the categorical variables, and logistic regression and multiple logistic regression were used to identify independent factors for predicting success, incomplete procedure, severe mitral regurgitation and major complications.

**RESULTS** Success was noted in 452 (94.2%) procedures, with major complications occurring in 22 (4.2%) patients, of which 10 were severe mitral regurgitation; there were no per-procedure deaths, with 4 (0.8%) in-hospital deaths. In the multiple logistic regression, lower age predicted success in the procedure; the only variable that predicted an incomplete procedure was the initial period of the procedure, and a score >11 points predicted severe per-procedure mitral regurgitation. There was no independent predictor of major complications in this study.

**CONCLUSIONS** Success was related to younger patients, an incomplete procedure to the initial period of the procedure and severe per-procedure mitral regurgitation to an echocardiography score >11 points

### CRT-700.47

#### Long-term Follow-up of Percutaneous Mitral Valvuloplasty With Single Balloon Technique: Survival and Event-free Survival



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**BACKGROUND** Mitral balloon valvuloplasty with Inoue balloon is the worldwide accepted procedure technique. The aims of this study is to evaluate the long-term follow-up (FU) of mitral balloon valvuloplasty (MBV) with Balt single balloon (BSB) technique and to determine independent predictors of survival and event-free survival (EFS).

**METHOD** From 1987 to 12-31-2013, 526 procedures of MBV were performed, 404 (77.1%) with BSB. There were 256 procedures with long-term FU. Balloon diameter was 25 mm in 5 procedures and 30 mm in 251. Mean dilatation area was 7.02±0.30 cm<sup>2</sup>. FU was 156 ± 144 months. Multivariate Cox analysis was performed to determine IPS and EFS.

**RESULTS** Mean age was 38.0±12.6 (13 to 83) years, 222 (86.7%) female gender, 215 (84.0%) sinus rhythm, echo score (ES) 7.2±1.5 (4 to 14) points and echo mitral valve area (MVA) pre-MBV 0.93±0.21 cm<sup>2</sup>. Mean pre and post-MVA (Gorlin): 0.90±0.20 and 2.02±0.37 cm<sup>2</sup>, respectively ( $p<0.001$ ). Success (MVA ≥1.5 cm<sup>2</sup>): 241 (94.1%) procedures. Mean pulmonary artery pressure pre and post-MBV: 27±10 and 20±7 mmHg, respectively. Three (1.2%) patients began the FU with severe mitral regurgitation (SMR). At the end of FU 119 (46.5%) patients were in NYHA functional class (FC) I; 70 (27.3%) in FC II; 53 (20.7%) in FC III; 3 (1.2%) in FC IV; 11 (4.3%) deaths; 17 (8.2%) patients with SMR; 20 (4.7%) were submitted to a new MBV; 27 (10.5%) to mitral valve surgery and 70 (26.3%) without any medicine. Independent predictors of survival were: ES ≤8 points ( $p<0.001$ , HR 0.116, 95% IC 0.035-0.384), age ≤50 years old ( $p=0.011$ , HR 0.203, 95% IC 0.059-0.693) and absence of mitral valve surgery in the FU ( $p=0.004$ , HR 0.170, 95% IC 0.050-0.571). Independents of EFS were: absence of prior commissurotomy ( $p<0.002$ , HR 0.318, 95% IC 0.151-0.667), female gender ( $p=0.036$ , HR 0.466, 95% IC 0.229-0.951) and MVA post-MBV ≥1.50 cm<sup>2</sup> ( $p<0.001$ , HR 0.466, 95% IC 4.884-28.457).

**CONCLUSIONS** Success in 94% of procedures. At the end of follow-up (25 years) only 4.3% of mortality. The independent predictors of survival were ES ≤8 points, age ≤50 years old and absence of mitral valve surgery in the FU. Independent predictors of EFS were absence of prior commissurotomy, female gender and MVA post-MBV ≥1.50 cm<sup>2</sup>

### CRT-700.48

#### Prior Surgical Mitral Commissurotomy And Echocardiographic Score Influence in Mitral Balloon Valvuloplasty. Immediate Post-Procedure Results



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**INTRODUCTION** Percutaneous mitral balloon valvuloplasty is effective in mitral stenosis.

**OBJECTIVES** To evaluate prior mitral surgical commissurotomy (PMC) and echocardiographic score (ES) in the results and complications of mitral balloon valvuloplasty (MBV).

**METHODS** From 1987 to 2013, 526 procedures were performed with Inoue balloon, double or single Balt balloon technique, 480 without PMC named primary MBV group (PMBVG) and 46 that have been submitted to PMC, the PMC group. The PMCG was older than PMBVG (42.7±12.4 vs 36.9±12.5 years,  $p=0.0030$ ). Gender, atrial fibrillation and NYHA functional class were similar. In PMBVG and PMCG, respectively, ES were 7.2±1.4 and 7.7±1.5 points ( $p=0.0158$ ) and mitral valve area (MVA) 0.94±0.21 and 1.00±0.22 cm<sup>2</sup> ( $p=0.0699$ ).

**RESULTS** Pre-MBV: mean pulmonary artery pressures (MPAP) were 37.8 ± 14.2 and 37.6 ± 14.4 mmHg,  $p=0.9515$ ; mean gradient (MG) 19.6 ± 6.9 and 18.3 ± 6.9 mmHg,  $p=0.2342$ ; MVA 0.90 ± 0.21 and 0.93 ± 0.19 cm<sup>2</sup>,  $p=0.4092$ , respectively, when comparing PMBVG and PMCG. Post-MBV: MPAP were 26.8 ± 10.2 and 26.6 ± 10.9 mmHg,  $p=0.9062$ ; MG 5.4 ± 3.5 and 6.3 ± 4.2 mmHg,  $p=0.1492$ ; MVA 2.04 ± 0.42 and 1.92 ± 0.41 cm<sup>2</sup>,  $p=0.0801$ , respectively. Mitral regurgitation (MR) was similar pre- and post-MBV. There was Severe MR post-MBV in 10 patients: 8 in PMBVG and 2 in PMCG,  $p=0.2048$ . As there were no significant differences found, the total group was divided in ES ≤ 8 and >8 groups: Pre-MBV: MPAP 37.5 ± 13.9 and 39.3 ± 16.6 mmHg,  $p=0.4041$ ; MG 19.7 ± 6.8 and 18.3 ± 7.3 mmHg,  $p=0.1753$ ; MVA 0.90 ± 0.21 and 0.94 ± 0.20 cm<sup>2</sup>,  $p=0.0090$  respectively. Post-MBV: MPAP