

patterns and improve access to newer therapies for MR, such as MitraClip.

**CRT-700.52**

**Optimal Mitral Valve-in-valve Sizing and Positioning Using Braile Inovare® Transcatheter Valve: An In Vitro Analysis**



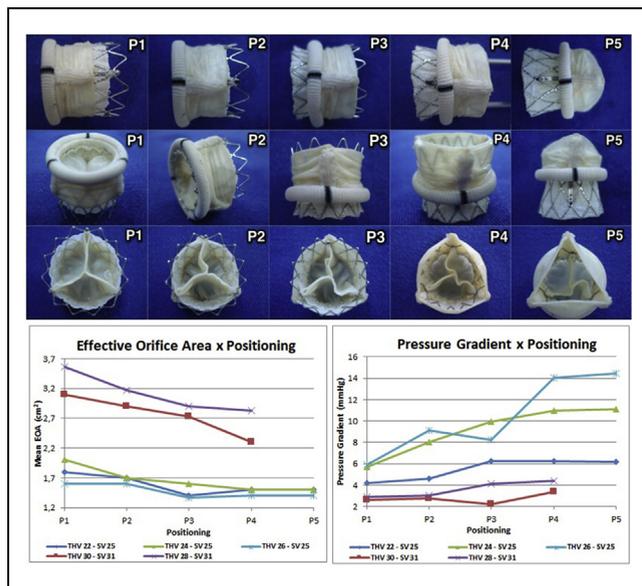
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**BACKGROUND** Transcatheter Heart Valves (THV) are the most innovative solutions for heart valve diseases. Valve-in-valve (ViV) procedure is a good alternative to reoperation, once 20-35% of mitral surgery need reintervention within 10 years and this kind of procedure is risky. The appropriate positioning for mitral ViV implantation using the bioprosthesis as a reference is not well defined and there are few studies exploring this subject. Therefore, this study prospectively the influence on in vitro hydrodynamic performance of Inovare® THV (Braile Biomédica, Brazil), a balloon expandable one, in regard to mitral ViV implantation in different depths and oversizing.

**METHODS** Inovare® THV of 22, 24, 26, 28 and 30 mm were implanted within four Braile's surgical valve (SV) sizes (25, 27, 29 and 31 mm) on a pulse duplicator, testing different hemodynamic conditions. Oversizing from 4 to 24% and 5 different implantation depths were considered.

**RESULTS** Results show an optimal deployment depth range. Deeper positioning (ventricular) shows better hemodynamic performance in comparison to upper positioning (atrial), besides an appropriate oversizing of Inovare® THV related to Braile bioprosthesis is a determinant factor to define the best depth range implantation.

**CONCLUSION** Considering that there are no previous reports for mitral ViV with Inovare® THV, these findings may encourage researchers to study other correlations concerning mitral ViV, extending these analyzes for better and safer clinical results.



**CRT-700.53**

**Immediate Hemodynamic & Echocardiographic Results of Percutaneous Transvenous Mitral Commissurotomy in Patients of Symptomatic Mitral Stenosis with Mitral Annular Calcification**



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**OBJECTIVES** To see the immediate hemodynamic and echocardiographic results of Percutaneous Transvenous Mitral Commissurotomy (PTMC) in patients with mitral stenosis with mitral annular calcification.

**BACKGROUND** Rheumatic mitral stenosis is a very common problem in our population having an incidence of 54 percent among rheumatic heart disease with a female preponderance of 2:1. Percutaneous balloon mitral commissurotomy is appealing because the mechanism of valve dilation closely parallels the mechanism of surgical mitral commissurotomy. Mitral annular calcification (MAC) is degenerative, fibrous calcification of the mitral valve annulus. Wilkins scoring system does not examine MAC, which is characterized by calcium and lipid deposition within the annular fibrosa of the mitral valve and might independently influence the PTMC result .

**METHODS** A prospective study was done during the period of August 2003 to June 2017. One Thousand Nine hundred and eighty (1980) patients with rheumatic mitral stenosis who underwent PTMC were evaluated clinically, by echocardiography and by catheter, during and after procedure. Out of 1980 patients, 120 patients had mitral annular calcification (Group-1) and 1860 patients had no mitral annular calcification (Group-2).

**RESULTS** Most of the population are female, 70% in Group-1 and 78% in group-2. After PTMC mean mitral valve area increased from 0.80 ± 0.11 cm<sup>2</sup> to 1.46 ± 0.27 cm<sup>2</sup> as measured by echocardiography in group-1 and from 0.85 ± 0.32 cm<sup>2</sup> to 1.81 ± 0.33 cm<sup>2</sup> in group-2. Mitral valve gradient reduced to 11.63 ± 4.15 mm Hg from 32.46 ± 03.94 mm Hg after PTMC in group-1 and 10.45 ± 3.76 mm Hg from 26.64 ± 04.12 mm Hg after PTMC in group-2.

**CONCLUSION** PTMC is an effective procedure for patients with mitral annular calcification, but the result is inferior to patients with no mitral annular calcification .So, mitral annulus evaluation may be considered in the echocardiographic assessment of the mitral apparatus prior to PTMC.

**OTHER**

**CRT-700.54**

**Alcohol Septal Ablation Produces Similar Changes to CBC as Atherosclerotic Myocardial Infarction but Platelet Counts Are Not Elevated. Is There Less Inflammation With ASA?**



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**OBJECTIVES** To study blood cell count changes after alcohol-induced septal infarct in Hypertrophic Obstructive Cardiomyopathy (HOCM) patients.

**BACKGROUND** Atherosclerotic myocardial infarction (MI) is a proinflammatory and prothrombotic state associated with neutrophilic leukocytosis, anemia, and increased platelet count and platelet size. The degree of leukocytosis correlates with infarction size and, together with increased platelets, amplifies myocardial inflammation. Alcohol Septal Ablation (ASA) produces a targeted infarction in the hypertrophied septum to reduce left ventricular outflow obstruction. The inflammatory and thrombotic effects of this iatrogenic alcohol-induced infarction have not been studied.

**METHODS** We evaluated 215 consecutive patients who underwent ASA with pre- and post-ASA hemoglobin, WBC count, platelet counts, and troponin.

**RESULTS** A total of 215 patients (age 61.37 ± 13.18, 91M, 124F) who underwent ASA were included in the study. Alcohol (2.10 ± 0.69cc) was injected into a targeted septal artery, producing a peak troponin of 53.46 ± 48.80 ng/ml. After ASA, WBC increased from 7.07 ± 2.03 to 8.22 ± 2.57 (p<0.001), hemoglobin decreased from 13.30 ± 1.82 to 12.22 ± 1.98 (p<0.001), and platelet counts decreased from 200 ± 56 to 177 ± 48 (p <0.001). Different tertiles of hemoglobin, WBC, and platelet counts showed no correlation to peak troponin values following ASA. The volume of alcohol injected did not affect the pre- and post-ASA hemoglobin, WBC, and platelet counts.

**CONCLUSIONS** Compared to atherosclerotic MI, alcohol-induced infarction also leads to an increase in WBC count and anemia, but unlike atherosclerotic MI there is a reduction in platelet count. This suggests that ASA produces a similar inflammatory response with a

reduced thrombotic state. The size of the ASA infarct did not correlate with blood count indices.

**CRT-700.55**

**Inoue Balloon Versus Single Balt Balloon Technique In Percutaneous Mitral Balloon Valvuloplasty: Results, In-hospital Evolution and Cost**



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**OBJECTIVE** To compare the results, in-hospital evolution and cost of 468 percutaneous mitral balloon valvuloplasties (PMBV) with Inoue balloon (IB) and single Balt balloon (SBB).

**METHODS** Inoue group (IG) with 73 procedures and Balt group (BG) with 395. Performed between 06/1987 and 12/1999. Mean age of IG was 37.1 ± 10.1 years and BG 37.3 ± 12.8 (p=0.71745); 59 procedures in women in IG and 327 in BG (0.685255); NYHA functional class was in IG and BG, respectively: I in 4 and 4 patients, II in 23 and 87, III in 40 and 265 and IV in 6 and 39 procedures (p=0.010929). Atrial fibrillation in 7 patients of IG and 55 BG (p=0.315511). Echocardiographic score 7.2 ± 1.2 IG and 7.3 ± 1.5 BG (p=0.958911). Mitral valve area (MVA) by Echo pre-PMBV was 0.98 ± 0.19 cm<sup>2</sup> IG and 0.94 ± 0.21 cm<sup>2</sup> in BG (p=0.143954)

**RESULTS** Within-group comparison results between IG and BG, respectively, were: Pre-PMBV mean pulmonary pressure (MPP) 33.9 ± 13.5 and 38.6 ± 14.3 mmHg (p=0.007662), mitral gradient (MG) 17.3 ± 6.4 and 19.8 ± 7.0 mmHg (p=0.013180), Mitral valve area (MVA) by Gorlin pre-PMBV was 0.90 ± 0.20 and 0.91 ± 0.21 cm<sup>2</sup> in BG (p=0.8228449). Post-PMBV MPP 25.3 ± 8.6 and 27.2 ± 10.6 mmHg (p=0.261415), MG 5.9 ± 3.1 and 5.5 ± 3.7 mmHg (p=0.083664), MVA Gorlin 1.98 ± 0.46 and 2.04 ± 0.40 cm<sup>2</sup> (p=0.419208). Complications: 5 episodes of cardiac tamponade in BG (2 after ventricle perforation, 3 after atrium perforation) being 3 treated by surgery with 2 deaths and 2 treated by pericardial drainage without death. Stroke in 1 patient in BG. Severe mitral regurgitation (MR) in 1 patient of each group, treated by surgery. Calculated cost of both technique, taking account 2 consecutive years, reuse and price of acquisition of the material at current prices, demonstrate that IB technique cost U\$1,286,32 and SBB technique U\$309.94 for this procedures.

**CONCLUSIONS** Both techniques were efficient. The IG was less symptomatic. MPP and MG were higher in BG, but results post-PMBV were similar. MR was similar. Other complications were only in BG. The material cost was smaller in BG

**CRT-700.56**

**The Clinical Characteristics, Procedural Factors and Outcomes of Percutaneous Coronary Intervention (PCI) in Patients with Mechanical Valves**



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**BACKGROUND** There is scarcity of evidence with regard to best practice in patients with mechanical valves undergoing PCI. Our goal was to study the current treatment practices in this patient population with special emphasis on anticoagulation management and in-hospital outcomes.

**METHODS** From the PCI registry at our center, between January 2003 to January 2017, we identified 92 patients with a mechanical aortic or mitral prosthesis. Demographic data and presentation [acute myocardial infarction (MI) versus elective PCI] were collected. Admission and discharge medications were documented. Procedural and lesion characteristics were documented. Post-procedural events including bleeding, MI, length of stay, and in-hospital deaths were documented.

**RESULTS** The baseline characteristics, procedural details, and outcomes are summarized in Table 1. Mean age was 65.5±12.1 years. At discharge, 67% were discharged on aspirin +clopidogrel + warfarin; 17% on clopidogrel +warfarin; 13% on aspirin+clopidogrel; and 3% on aspirin +warfarin. Post procedure, major bleeding occurred in 6.5%. Average length of stay was 5.7±6.9 days, and there was 1 in-hospital death.

**CONCLUSION** Our study highlights contemporary PCI strategy in patients with mechanical valves. They often present with acute coronary syndrome which requires additional anti-platelet therapies. They are at increased risk of bleeding due to other comorbidities. Vigilant anticoagulation management post PCI is of utmost importance to reduce vascular/bleeding complications. Our data reveal that variation in therapeutic regimen exists in this population. Randomized controlled trials are needed with regard to optimal PCI strategy and antiplatelet therapy post PCI.

Table 1. Baseline Characteristics, procedural details and outcomes	
Variables	No (%)
Age – year (Mean ±SD)	65.5±12.1
Female sex – no. (%)	25(21.2%)
White race – no. (%)	66(71.7%)
<b>Diagnosis at presentation</b>	
Elective PCI	31(33%)
Unstable angina	42(45.7%)
Acute MI	19(20.7%)
<b>Medical history — no. (%)</b>	
Prior coronary artery disease	61(66.3%)
H/O Diabetes	25(27.2%)
Drug eluting stent	104(69.9%)
Bare-metal stent — no. (%)	41(30.1%)
Pre- PCI clopidogrel 600mg– no. (%)	23(26.1%)
Post-PCI clopidogrel loading– no. (%)	43(54%)
<b>Discharge antiplatelet/anticoagulation therapy</b>	
aspirin +clopidogrel + warfarin	48(67%)
clopidogrel +warfarin	12(17%)
aspirin+clopidogrel	9(13%)
aspirin +warfarin	2(3%)
<b>In-Hospital End points</b>	
Major bleeding	6(6.5%)
Length of stay(days)	5.7 ± 6.9
Vascular complications	7(7.6%)
In-hospital Death from any cause — no. (%)	1(1.1%)

**CRT-700.57**

**Over 10-year Follow-up for 42 Patients After Alcohol Septal Ablation**



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**BACKGROUND** Long-term outcomes of alcohol septal ablation (ASA) in patients with obstructive hypertrophic cardiomyopathy are still lacking. To assess long-term results, we followed 42 patients over 10 years.

**METHODS** ASAs were done for 160 unselected (all-comers) obstructive HCM patients between 2000 and 2017. In this historical cohort 42/160 patients (29 males and 13 females) were followed over 10 years (they were operated between 2000 and 2008). Mean period of follow-up was 12(2) years in this subgroup. Mean age at the time of the procedure was 44,2 (12,9). Risk factors at the baseline were syncope (4 patients), smoking (4 patients), family history of HCM (3 patients), over 30 mm septum thickness (11 patients), sustain ventricular tachycardia (1 patient). Mean NYHA class was 2,5 (0,8). The similar ethanol dose (3.0 ml) was used in all cases. Repeat ASAs were done in 9 patients. 1 patient underwent the radio-frequency left ventricular outflow tract (LVOT)ablation at the long-term. Data were collected using local database, direct calls to patients.