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) wiith 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 fibrilation 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 área (MVA) by Echo pre-PMBV was 0.98 ± 0.19 cm2 IG and 0.94 ± 0.21 cm2 in BG (p=0.143954)

RESULTS Within-group comparison resultsbetween IG and BG, respectively, were: Pre-PMBV mean pulmonar 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 área (MVA) by Gorlin pre-PMBV was 0.90 ± 0.20 and 0.91 ± 0.21 cm2 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 cm2 (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 drenage 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 acquision 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 smaler 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.

Table1. 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%)
Diagnosis at presentation	
Elective PCI	31(33%)
Unstable angina	42(45.7%)
Acute MI	19(20.7%)
Medical history — no. (%)	
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%)
Discharge antiplatelet/anticoagulation therapy	
aspirin +clopidogrel + warfarin	48(67%)
clopidogrel +warfarin	12(17%)
aspirin+clopidogrel	9(13%)
aspirin +warfarin	2(3%)
In-Hospital End points	
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 syncopes (4 patients), smoking (4 patients), family history of HCM (3 patients), over 30 mm septum thickness (11 patients), sustain ventricular tachicardia (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.

RESULTS Nobody died at the short-term. At the long-term period 7 patients (16.6%) passed away (all-cause mortality). Sudden cardiac death was observed in 2 cases. 1 patient died due to ischemic stroke. In 4 cases the reason of death was not established (unknown). Mean NYHA class at the follow-up was 1,9 (0.5). 9 patients (21.4%) suffered from residual LVOT obstruction. Just 1 patient underwent implantable cardioverter defibrillator insertion. 3/42 patients (7.1%) underwent the pacemaker insertion due to a complete heart blockage. 12-year survival were 78.9%. Multi-variant analysis identified age younger than 35 years before ASA (p=0.041, odds ratio 0.188, 95%CI: 0.034-1.038) and pacemaker implantation after ASA (p= 0.016, odds ratio 0.074, 95%CI: 0.006-0.968) as predictors for long-term death.

CONCLUSIONS Long-term more than 10-years results of ASA look appropriate, and consistent with largest Euro-ASA registry. Unselected type of historical patient's cohort might slightly decrease the effectiveness of such kind of therapy. Our data emphasize concern of ASA in patients younger 35 years.

CRT-700.58

A Pulsatile In Vitro-model of Infective Endocarditis

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OBJECTIVE Infective endocarditis (IE) is still associated with a high morbidity and mortality. IE is characterized by bacterial biofilms of the endocardium, especially of the aortic and mitral valve leading to destruction of the valve. Current research demonstrate that about one quarter of the patients with formal surgery indication cannot undergo surgery. This group of patients needs further options of therapy, but due to a lack of models for IE, prospects of research are low. Therefore, the purpose of this project is to establish an in vitro-model of infective endocarditis to allow growth of standardized bacterial biofilms on porcine aortic valves, serving as baseline for further research.

METHODS AND RESULTS A pulsatile two-chamber circulation model was constructed that kept native porcine aortic valves under sterile, physiologic hemodynamic and temperature conditions. To exclude external contamination, repeated (n=5) sterility tests with sterile culture media were performed for 24h with 5l cardiac output per minute. After this time period, no macroscopic growth of microorganisms was observed, and cultures after plating on standard media remained negative. To create biofilms on porcine aortic valves, the system was inoculated with *Staphylococcus epidermidis*. Porcine aortic roots were incubated in this system for increasing periods of time (8h, 24h and 40h) to evaluate bacterial growth and biofilm development on the valves. After incubation, specimens were embedded and tissue sections were analyzed by fluorescence-in-situ-hybridization (FISH) for direct pathogen detection and visualization of the biofilms. The monospecies colonization was confirmed by culture and 16S rRNA-PCR with sequencing. The pilot tests for biofilm growth showed coccoid biofilms with time- dependent increasing growth after 8h, 24h and 40h. One of the 40h experiment performed PCR showed *S. epidermidis* as only pathogen of the biofilm with a matching genotype of 99%. The other n=3 experiments for biofilm creation showed biofilms with active cocci, good tissue infiltration and similar colonization pattern after 40h.

CONCLUSION These results demonstrate the efficacy of the above in vitro-model for bacterial biofilm growth on porcine aortic roots. The model will allow identification of predilection sites of valves for bacterial adhesion and biofilm growth, and it may serve as baseline for further research on infective endocarditis therapy, e.g. the development of antimicrobial transcatheter approaches to IE.

CRT-700.59

Radiation Dose Reduction in Structural Heart Disease Interventions Using Noise Reduction Technology

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BACKGROUND The Phillips AlluraClarity noise reduction technology (NRT) reduces the total amount of radiation to the patient and operator with minimal degradation in image quality during fluoroscopy-based procedures. Radiation dose reduction has been reported in transcatheter aortic valve replacement (TAVR), but not for other structural interventions.

METHODS In this retrospective single-center experience, we report the total fluoroscopy time and radiation dose area product across the three structural interventions we offer: TAVR, MitraClip, and the Watchman left atrial appendage closure device before and after upgrading to NRT. Fluoroscopy time and radiation dose measured as dose area product were compared across the structural interventions before and after NRT upgrade. A Kruskall-Wallis H test was used to compare times and radiation doses with and without NRT.

RESULT We analyzed 531 TAVR cases from February 2012 to August 2017 (68 done with NRT), 127 MitraClip cases from February 2014 to September 2017 (11 done with NRT), and 83 Watchman cases from April 2015 to August 2017 (12 done with NRT). There was a consistent statistically significant decrease in radiation dose (see statistics Table 1). Mean fluoroscopy time was significantly decreased in TAVR (23.7 vs 17, p=0.0001) while not significantly changed in MitraClip and Watchman (32.2 minutes vs 28 minutes, p=0.35 and 14 minutes vs 15.4 minutes, p=0.48).

CONCLUSION NRT results in a significant reduction in radiation dose while not significantly increasing total fluoroscopy time. Our results suggest that NRT should be considered by any structural intervention program looking to reduce procedural radiation.

Table 1. Procedural Fluoroscopy Time and Radiation Dose by Structural Heart Intervention

	Standard			NRT			Δ	
	n	Mean Time (min)	Mean Radiation Dose (Gy*cm2)	n	Mean Time (min)	Mean Radiation Dose (Gy*cm2)	Mean Time (min)	Mean Radiation Dose (Gy*cm2)
TAVR	461	23.5	246.8	70	17.1	57.8	-27.2% (p=0.0001)	-76.5% (p=0.0001)
MitraClip	114	32.3	199.3	11	28	86.7	-13.3% (p=0.34)	-56.4% (p=0.003)
Watchman	70	14	150.1	12	15.4	73.2	0.1% (p=0.48)	-51.2% (p=0.0008)