Conclusion: The MLS index is a new easy and practical method for assessment of mitral stenosis severity.

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Mitral Balloon Valvuloplasty Long-term Follow-up Of Single Balloon Versus Inoue Balloon Techniques. Independent Predictors Of Survival And Event Free Survival

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Objectives: The single balloon (SB), that is the less expensive technique to perform mitral balloon (MBV) valvuloplasty. This study aimed to demonstrate that MBV with SB Balt has similar outcome and long-term follow-up (FU) than MBV performed with the Inoue worldwide accepted technique.
Methods: From 1987 to 12/31/2011 a total of 526 procedures were performed, being 312 procedures with a FU, 56 (17.9%) with Inoue balloon (IB), the IB group (IBG) and 256 (82.1%) SB Balt group (SBG). The mean FU in IBG was 33±27 (2 to 118) and in SBG 55±33 (1 to 198) months (P<0.0001). Univariate analysis and multivariate Cox analysis were utilized to determine independent predict variables of survival and event free survival (EFS) in both technique groups and major events were (death, cardiac surgery and new MBV).
Results: In IBG and SBG there were: female 42 (75.0%) and 222 (86.7%) procedures, (P=0.0276), mean age 37.3±10.0 (19 to 63) and 38.0±12.6 (13 to 83) years (P=0.7138), sinus rhythm 51 (91.1%) and 215 (84.0%), (P=0.1754), echo score (ES) 7.6±1.3 (5 to 10) and 7.2±1.5 (4 to 14) points (P=0.0528), echo mitral valve area (MVA) pre-MBV 0.96±0.18 and 0.93±0.21 cm^2 (P=0,2265). Post-MBV mean MVA (Gorlin) were 2.00±0.52 and 2.02±0.37 cm^2 (P=0.9550) and at the end of the FU there were: echo MVA 1.71±0.41 and 1.54±0.51 cm^2 (P=0.0552), new severe mitral regurgitation in 5 (8.9%) and 17 (6.6%) patients (P=0.5633), new MBV in 1 (1.8%) and 13 (5,1%), (P=0.4779), mitral valve surgery in 3 (5.4%) and 27 (10.4%), (P=0.3456), deaths 2 (3.6%) and 11 (4.3%) deaths, (P=1.000), being cardiac deaths 1 (1.8%) and 9 (3.5%), (p=1.0000), major events 5 (8.9%) and 46 (18.0%), (P=0.1449). In univariate analysis and multivariate Cox analysis the SB or IB technique used do not predict survival or EFS and independent risk factors to survival (multivariate Cox analysis with 2 models with 5 and 6 variables) were: age <50 years (P=0.016, HR=0.233, 95% IC 0.071-0.764), ES ≤8 (P<0.001, HR=0.105, 95% IC 0.34-0.327), MBV dilatation area (P<0.001, HR 16.838, 95% IC 3.353-84.580) and mitral valve surgery in the FU (P=0.001, HR=0.152, 95% IC 0.050-0.459) and to EFS: prior commissurotomy (P=0.012, HR=0.390, 95% IC 0.187-0.813) and post-MBV MVA ≥1.50 cm^2 (P<0.001, HR=7.969, 95% IC 3.413-18.608).
Conclusions: MBV with SB and IB were equally efficient with similar survival and EFS in the FU. Independent predictors of survival were: age <50 years, ES ≤8 points, MBV dilatation area and mitral valve surgery in the FU and of event EFS: prior commissurotomy and post-MBV MVA ≥1.50 cm^2.

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Major clinical Outcomes after Mitral Valve Repair in Low Risk Patients

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Background: To report the short-term clinical outcomes of patients with severe mitral valve regurgitation undergoing mitral valve repair.
Methods: Four hundred forty patients who underwent mitral valve repair between 2003 to August 2012 in our Institution were identified by using a Society of thoracic Surgeon (STS) standardized database. We excluded those patients who had previous coronary artery bypass surgery or valve surgery or endocarditis from the study. The STS mortality risk sore 3 was used as a cutoff point to define the study group.
Results: Three hundred fifty nine patients with STS mortality risk score lower than 3 were included in the analysis. Observed 30-day mortality and other major clinical outcomes and predicted outcomes are presented in the following table.

Major Postoperative Clinical Outcomes after Mitral Valve Repair.

	Observed Outcomes (N=359)	STS Predicted Outcomes
Mortality (%)	2 (0.6)	0.6
Stroke (%)	4 (1.1)	1.0
Renal-failure (%)	1 (0.3)	2.0
Total ICU hours	43.2±65.7	
Prolonged ventilation (%)	21 (5.8)	5.7
LOS (days)	5.9±4.5	
Postoperative atrial fibrillation (%)	100 (27.9)	
Total PRBC (ml)	301.5±581.8	
Readmission to hospital (%)	31 (8.6)	
Moderate or Severe postoperative mitral valve regurgitation (%)	4 (1.1)	
STS Predicted Morbidity or Mortality (%)		10.8

Conclusions: Our single center experience of isolated mitral valve repair in patients with STS mortality score lower than 3 is generally in concordance with the predicted STS outcome rates. The postoperative mitral regurgitation was lower than reported rates in published articles.

Other

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Follow-up Results And Health-related Quality-of-life After Implantation Of Left Ventricular Passive Containment Device For Heart Failure And Dilated Cardiomyopathy

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Objective: We conducted a prospective study of the clinical outcomes and health-related quality-of-life after implantation of the CorCap cardiac support device (Acorn Cardiovascular Inc.) for dilated cardiomyopathy.
Methods: The CorCap was implanted in case of dilated cardiomyopathy (left ventricular end-diastolic diameter >60 mm. and <80 mm., left ventricular ejectionfraction <30%), symptoms of heart failure (NYHA class III or IV) despite maximal medical therapy, and good renal, pulmonary and hepatic functions. Echocardiographic follow-up and evaluation with the SF-36 questionnaire were performed. An average 25.1 ± 4.3 follow-up was available.
Results: Forty patients were included. A statistically significant improvement was evident in mean left ventricular ejection fraction, end-diastolic diameter, end-diastolic volume and volume index, end systolic diameter, end-systolic volume and volume index, left ventricular sphericity index at the last follow-up vs. baseline. The cumulative mortality was 10% (no follow-up deaths after the 1st postoperative year). The average physical health domain scores (physical functioning, role physical, general health) were statistically improved. Average mental health domain scores were also increased. Concomitant mitral

surgery and cardiac resynchronization therapy did not appear to significantly improve the clinical results. Cox regression evidenced lesser improvement in quality-of-life domains among patients with ischemic cardiomyopathy.
Conclusions: The cardiac support device obtains reverse remodelling of the left ventricle, and allows stable improvement in the quality of life until to the 2nd year post-implantation. The integration of different and complementary strategies (cardiac support device, resynchronization therapy and aggressive treatment of functional mitral regurgitation) may represent the key of success for the more complex patients.

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The Tri-dimensional Complete Ring: A Novel Device For More Efficient Tricuspid Valve Repair. Initial Results

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Background: The interest for the tricuspid valve increased significantly as well among cardiologists as among surgeons. The reason is double: on one hand, the severe tricuspid regurgitation occurring occasionally after isolated mitral valve replacement; on the other hand, development of the three-dimensional echocardiography allowing a more pronounced exploration of the tricuspid valve and right ventricle functions. Because annuloplasty remains the gold standard technique in tricuspid surgery, our aim was to evaluate the impact of our tri-dimensional complete ring in improving the short and long term outcomes of this conservative surgery.
Methods: This is a prospective study including 30 patients (Mean age was 25 years). All of them were operated on for rheumatic left sided valves disease associated with grade III functional tricuspid regurgitation. Our new tri-dimensional complete ring was used for tricuspid valve repair. The average time of implantation was five minutes. The complete structure and the modulated flexibility of this new ring, exclusively made of PTFE and well tolerated materiel as demonstrated by our experimental and histological studies, are expected to respect and restore the physiology annulus, and finally lead the septal leaflet to take part to the valvular coaptation.
Results: There was no hospital mortality and no major complications. Mean follow-up was 12 months. No significant tricuspid regurgitation was observed either at discharge or during follow up. Furthermore, 3D echocardiography showed a good remodeling of the tricuspid annulus and a significant improvement of right ventricular function.
Conclusions: The tri-dimensional complete ring allows a more physiologic, cheaper and faster repair of the tricuspid valve. Furthermore, our ring made exclusively from PTFE seems to be rapidly endothelalized and more resistant to infection. Whereas short and mid term results are good and promising, longer follow up is required to confirm these trends.

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Ductal Stenting In Neonates With Duct Dependant Circulation: The Genuine And Feasible Option

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Introduction: Duct dependant circulation in a neonate presents as a life threatening emergency. These patients can survive only if duct patency is maintained for the time before they are taken up for a planned staged surgery. Surgical palliative shunt, a surgical option or ductal stenting, a catheter based intervention can be performed in such patients.
Objective: We performed ductal stenting in 8 babies with duct dependant circulation with an objective to observe our results.
Patient and Methods: 8 babies with age ranging from 22 hours to 18 days underwent ductal stenting (table 1). Procedure was performed under deep sedation. Venous and arterial access was obtained by Scheldinger's technique. Bare metal stents were used in all patients. Mean procedure time was 48 minutes while fluoroscopy time was 14 minutes.

Table 1

No	Age	Sex	Weight (kg)	Diagnosis	Stent size (mm)
1	22 hrs	M	2.8	HLHS	8 × 28
2	3 days	F	2.4	Tricuspid & Pulm atresia	3.75 × 18
3	3 days	F	2.85	HLHS	7 × 30
4	2 days	F	2.35	HLHS	8 × 24
5	18 days	F	2.7	Single ventricle, Pulm atresia	4 × 20
6	16 days	M	3.1	Dextrocardia, Pulm atresia	3.5 × 22
7	5 days	M	2.2	Pulm atresia	3.5 × 16
8	6 days	M	2.5	Pulm atresia	3.75 × 22

Results: The procedure was successful in all patients. 5 patients with pulmonary atresia underwent Glenn shunt at age of 6 - 7 months and are growing well while 3 patients with HLHS survived only for next 3 - 4 weeks only as next surgery (bilateral PA banding) could not be done in them.
Conclusions: Ductal stenting is a feasible option for initial management of patients with ductal dependant circulation till the patient is taken up for definitive surgery.

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Results Of Adenosine Vasoreactivity Testing In Pulmonary Hypertension By Basilar And Radial Access

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Background: Pulmonary Hypertension is a frequent disease in third level hospitals, with elevated morbidity and mortality in short time. To choose the medical treatment is fundamental to do a pulmonary vasoreactivity test.
Objective: To show and classify the results of the vasoreactivity test in the different groups of pulmonary Hypertension, done by basilar and radial Access.
Material and Method: By consecutive simple we captured cases in which left and right catheterism is done in patients with pulmonary hypertension, since November 2010 to January 2012. By basilar access we did the right catheterism, oximetries and pressure are registered, in superior vena cava, Inferior vena cava, Right Ventricle and Pulmonary Trunk. By radial Access pressures and oximetries are registered in aorta and Left Ventricle. Cardiac output is determined by Fick Method. The vasoreactivity was evaluated with adenosine infusion in the pulmonary trunk, in doses of 100 mcg/kg/min with a maximum of 12 mgs. A positive test is considered when Mean Pulmonary arterial pressure (mPAP) decrease more than 10 mmHg or a (mPAP) less than 40 mmHg without affection of the cardiac output.
Results: 92 procedures were done, 57% women, mean age 44 years, 58 patients of the group 1, 22 of the group 2, 7 of the group 3 and 5 of the group 4. Only 8% of the patients responded to adenosine infusion, 6 patients from the group 1 and 1 patient from de group 3 (Pulmonary Hypertension classification, Dana Point 2008). The mPAP decreased on average of 17 mmHg, and it was sustained in average 7.2 minutes. All procedures were done successfully and same day discharge. Complications: 2 patients referred severe chest pain with the adenosine infusion, but not persistent electrocardiographic abnormalities are founded. 10% of patients presented pain in the Access site that was controlled with analgesics.
Conclusions: Basilar and radial Access was accepted in 100% percent of the patients, and all are same day discharged. There were no major complications and the vasoreactivity test was positive only in 8% of the patients, principally patients of the group 1.