

RESULTS Mean age was 37±4.6 years, two-thirds were female, two patients (16.7%) had previous PTMC, quarter of patients were in atrial fibrillation, all patients were symptomatic. Mitral valve area increased from 1.05±0.26 cm² to 2.02±0.45 cm² (p<0.0001). Mean gradient decreased from 13.52±5.09 mmHg to 5.38 ±3.15 mmHg (p<0.0001). There was a significant decrease in systolic pulmonary artery pressure from 38.13±7.55 mmHg to 28.25±4.65mmHg (p=0.006). Pulmonary resistance measured by echocardiography using Tricuspid regurgitation Vmax / Tricuspid VTI ratio dropped from 0.140±0.017 to 0.116±0.015 (p=0.023). Tricuspid annular point systolic excursion (TAPSE) increased from 21.58±3.08mm to 24.25±4.80mm (p=0.029) then to 24.10±5.28mm (p=0.091) and to 24.10±5.28mm (p=0.091). Systolic velocity (S') at lateral tricuspid annulus increased from 12.80±3.76cm to 14.90±3.98cm (p=0.004) and to 14.80±3.79cm (p=0.015) then to 15.60±3.92cm (p=0.001). Tei index decreased from 0.359±0.222 to 0.207±0.095 (p=0.026) and to 0.203±0.089 (p=0.024) then to 0.201±0.086 (p=0.014). Myocardial acceleration during isovolumic contraction (IVA) increased from 0.410±0.106 m/s² (p=0.027) to 0.568±0.256 m/s² and to 0.570±0.218 m/s² (p=0.010) then to 0.615±0.231 m/s² (p=0.003) respectively at baseline, 24h, one month and three months after PTMC. There was no significant fraction area change and dp/dt ratio of the right ventricle immediately and at mid term after PTMC.

CONCLUSIONS We suggest that there is an immediate improvement of right ventricular systolic function after PTMC that is maintained at mid term follow-up. Also the fact that this tendency was confirmed by using echocardiographic parameters those are loading dependent such TAPSE and others less loading dependent such IVA suggest that those improvements could be independent from loading conditions.

CATEGORIES STRUCTURAL: Valvular Disease: Mitral

KEYWORDS Mitral stenosis, Mitral valvuloplasty, percutaneous, Right ventricular dysfunction

TCT-713

Impact And Evolution Of Right Ventricular Dysfunction After MitraClip In High Risk Patients With Functional Mitral Regurgitation

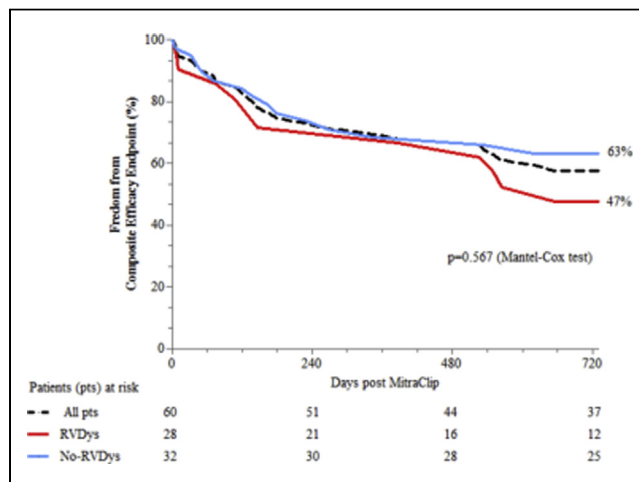
Cosmo Godino,¹ Anna Salerno,¹ Michela Cera,¹ Eustachio Agricola,¹ Michele Oppizzi,¹ Alberto Monello,¹ Anna Giulia Pavan,¹ Andrea Scotti,¹ Mauro Chiarito,¹ Valeria Magni,¹ Alaide Chieffo,¹ Matteo Montorfano,¹ Alberto Cappelletti,¹ Alberto Margonato,¹ Antonio Colombo²
¹San Raffaele Scientific Institute, Milan, Italy; ²EMO GVM Centro Cuore Columbus/San Raffaele Hospital, Milan, Italy

BACKGROUND Right ventricular dysfunction (RVdisf) is predictor of poor outcome in patients with heart failure and valvular disease. The aim of this study was to evaluate the impact and the evolution of RVdisf in patients with moderate-severe functional mitral regurgitation (FMR) after MitraClip.

METHODS From October 2008 to July 2014, 60 consecutive high surgical risk patients were treated and stratified into two groups: RVdysf-group (TAPSE <16 mm and/or S'TDS <10 cm/sec, 21 patients) and No-RVdysf-group (38 patients).

RESULTS The overall mean age was 73±8 (83% male). Ischemic FMR etiology was present in 67%. Mean LVEF was 30±10. Between the two groups the only significant differences was in presence of stroke, ICD and use of aldosterone-antagonist higher in RVdysf group. Acute procedural success was achieved in 90%. At 6-month echocardiographic follow-up significant improvement of RV function was observed in all patients and was driven by only the results of patients with RVdysf (TAPSE 15±3.0 vs. 19±4.5, p=0.007; S' TDI 7±1.2 vs. 11±2.8, p<0.0001; baseline vs. 6-month, respectively). Overall mean follow-up was 565±310 days. Mean improvement in 6-MWT was 116 m (significant in both groups).

CONCLUSIONS This observational study shows that patients with RVdysf and FMR have significant improvement of RV function after MitraClip procedure. The presence of RVdysf was not predictor of unfavorable clinical outcome.



CATEGORIES STRUCTURAL: Valvular Disease: Mitral

KEYWORDS Mitraclip, Mitral regurgitation, functional, Right ventricular dysfunction

TCT-714

Transcatheter mitral valve replacement with balloon expandable valves in severe mitral valve disease due to severe mitral annular calcification: Results from the first global registry

Mayra Guerrero,¹ Danny Dvir,² Dominique Himbert,³ Marina Urena,³ Vaikom S. Mahadevan,⁴ Mackram Eleid,⁵ Daniel O'Hair,⁶ Pedro Martinez-Clark,⁷ Adam Witkowski,⁸ Olaf Wendler,⁹ Josep Rodes-Cabau,¹⁰ Nicolas Dumonteil,¹¹ Enrico Ferrari,¹² Daniel Ciaburri,¹³ William M. Suh,¹⁴ Gabriel Vorobiof,¹⁴ Adam Greenbaum,¹⁵ Dee Dee Wang,¹⁵ Gaetano Paone,¹⁵ Jose Honorio Palma,¹⁶ Antonio E. Dager,¹⁷ Axel Linke,¹⁸ Ran Kornowski,¹⁹ Georg Nickenig,²⁰ Alain G. Cribier,²¹ Vinayak Bapat,²² Charanjit Rihal,⁵ Alec Vahanian,³ Webb John,² William W. O'Neill¹⁵
¹Evanston Hospital, Evanston, IL; ²St Paul's Hospital, Vancouver, Canada; ³Bichat Hospital, Paris, France; ⁴Manchester Royal Infirmary, Manchester, United Kingdom; ⁵Mayo Clinic, Rochester, MN; ⁶Aurora St. Luke's Medical Center, Milwaukee, WI; ⁷Syntheon Cardiology LLC, Miami, FL; ⁸Institute of Cardiology, Warsaw, Poland; ⁹King's College Hospital, London, United Kingdom; ¹⁰Quebec Heart and Lung Institute, Quebec, Canada; ¹¹Cardiovascular and Metabolic Pole, Rangueil Hospital, Toulouse, France; ¹²University Hospital of Lausanne, Lausanne, Switzerland; ¹³OSF Health Care, Peoria, IL; ¹⁴UCLA Medical Center, Los Angeles, CA; ¹⁵Henry Ford Hospital, Detroit, MI; ¹⁶Escola Paulista de Medicina, Sao Paulo, Brazil; ¹⁷Angiografia de Occidente, SA, Cali, Colombia; ¹⁸University of Leipzig, Heart Center, Leipzig, Germany; ¹⁹Rabin Medical Center, Petach Tikva, Israel; ²⁰Heart Center Bonn, University of Bonn, Bonn, Germany; ²¹University of Rouen, Rouen, France; ²²St Thomas Hospital, London, United Kingdom

BACKGROUND The risk of surgical mitral valve replacement in patients with severe mitral annular calcification (MAC) is very high due to comorbidities and technical challenges related to calcium burden, precluding surgery in many patients. There are few isolated reports of successful transcatheter mitral valve replacement (TMVR) with balloon expandable valves in this patient population. We report the first large analysis from a global registry of TMVR in MAC.

METHODS 44 patients in 17 centers from 8 different countries underwent TMVR with the compassionate use of SAPIEN (Edwards Lifesciences, Irvine, CA) valves between September of 2012 and April of 2015.

RESULTS The mean age was 74 years (range 39-94), 71% were females, mean STS score 14.6% (range 1-29%). Most patients (91%) had mitral stenosis and 9% mitral regurgitation. The average mean gradient was 12 mmHg, mean area 1.04 cm². The SAPIEN valve was used in 11%, SAPIEN XT in 71% and SAPIEN 3 in 18% (23mm=4.5%, 26 mm=43.5%, 29mm=52%). The delivery approach was transatrial in 11%, transapical in 41%, and transeptal in 48%. The valve was implanted without embolization in 41 (93%) patients, 6 (14%) required a second valve-in-valve (migration=2, regurgitation=4), and 5 (11%) had left ventricular tract obstruction (LVOTO) with hemodynamic