

| Parameter | Needle | RF | p value |
|--------------------------------|-----------|-----------|---------|
| | N=25 | N=27 | |
| SVC to septum (sec) | 262 ± 165 | 218 ± 168 | 0.35 |
| Septum to puncture (sec) | 43 ± 40 | 22 ± 22 | 0.02 |
| Puncture to cross (sec) | 22 ± 9 | 22 ± 11 | 1 |
| Absolute Pre-Post Difference | | | |
| Superior Rim to TS site (mm) | 0.8 ± 0.9 | 1.0 ± 1.2 | 0.24 |
| Inferior Rim to TS site (mm) | 0.7 ± 0.6 | 1.1 ± 1.2 | 0.12 |
| Anterior Rim to TS site (mm) | 1.8 ± 2.0 | 1.4 ± 1.6 | 0.45 |
| Posterior Rim to TS site (mm) | 1.3 ± 1.8 | 1.3 ± 1.5 | 0.97 |
| Pre-to-max Tent TS site (mm) | 4.7 ± 3.0 | 2.8 ± 2.8 | 0.02 |

CONCLUSIONS Procedural times and degree of septum tenting favored the RF over standard needle; however, accuracy was similar with both approaches. RF was a successful strategy when standard needle failed. There were no major complications with either TS puncture strategy.

CATEGORIES STRUCTURAL: Valvular Disease: Mitral

KEYWORDS Structural heart, Transseptal puncture

TCT-704

Mitral Annular Calcification Does Not Impact MitraClip Procedural Success and Is Not Associated with Durability of Repair

Emily Tat,¹ Richard Cheng,¹ Reza Arsanjani,¹ Robert Siegel,¹

Asma Hussaini,¹ Alfredo Trento,¹ Saibal Kar¹

¹Cedars-Sinai Heart Institute, Los Angeles, CA

BACKGROUND Mitral annular calcification (MAC) has been associated with coronary atherosclerosis and increased mortality. While patients (pts) undergoing percutaneous edge-to-edge repair of mitral regurgitation (MR) often have significant MAC, the impact of MAC on procedural success and durability of repair is not known.

METHODS Pts who underwent percutaneous repair of MR between April 2009 and May 2014 with the MitraClip device (Abbott Vascular, Santa Clara, CA) were included in the analysis. Procedural success was defined as a reduction of MR of 2 grades or more on transthoracic echocardiogram done prior to discharge. A second metric of procedural success was a reduction of MR to less than or equal to mild-to-moderate. Durability of repair was defined as successful retention of procedural success at 1-yr transthoracic echocardiogram. Pts were graded as having mild MAC if annular calcification involved one-third or less of the posterior annulus, or moderate or severe if it involved more. Procedural success was compared across severities of MAC, and durability of repair was compared between pts with no or mild MAC and those with moderate or severe MAC.

RESULTS 173 pts were included in the analysis. Mean age at percutaneous repair was 76.9 ± 12.6 yrs and 40.8% were females. Hemodialysis and coronary artery disease was present in 10/173 (5.8%) and 94/173 (54.3%) of pts, respectively. Pts with MAC were older 79.9 ± 10.1 vs. 74.3 ± 14.0 yrs (p=0.003). MR was moderate-to-severe in 35/173 (20.2%) of pts and severe in 138/173 (79.8%) of pts. Procedural success of reduction of MR of 2 grades or more was obtained in 81/87 (93.1%) pts with no MAC, 60/61 (98.4%) pts with mild MAC, and 24/25 (96.0%) pts with moderate or severe MAC (p=0.321). At 1-yr follow-up for those who obtained initial reduction of MR of 2 grades or more, pts with no or mild MAC retained the reduction in 86/99 (86.9%) instances, while pts with moderate or severe MAC retained the reduction in 14/15 (93.3%) instances (p=0.690). Procedural success of reduction of MR ≤ mild-to-moderate was obtained in 69/87 (79.3%) pts with no MAC, 52/61 (85.2%) pts with mild MAC, and 22/25 (88.0%) pts with moderate-to-severe MAC (p=0.481). At 1-yr follow up for those who obtained initial reduction of MR ≤ mild-to-moderate, pts with no or mild MAC retained the reduction in 67/86 (77.9%) instances, while pts with moderate or severe MAC retained the reduction in 11/14 (78.6%) instances (p=1.000).

CONCLUSIONS MAC does not impact MitraClip procedural success in percutaneous edge-to-edge MR repair despite increased age in pts

with MAC. Procedural success is high across MAC severities and MAC alone should not preclude percutaneous edge-to-edge repair of MR. Moreover, moderate or severe MAC, which may make surgical repair of MR challenging, is not associated with decreased durability of percutaneous repair. Further investigations are warranted to explore this relationship.

CATEGORIES STRUCTURAL: Valvular Disease: Mitral

KEYWORDS Calcification, Mitraclip, Percutaneous mitral valve repair

TCT-705

Immediate and long term outcomes after repeat percutaneous mitral valvuloplasty for patients with mitral valve restenosis

Bahaa Alhabib¹

¹Institut Mutualiste Montsouris, Paris, HI

BACKGROUND Only rare reports have been published about redo PMV and data regarding its long term safety and efficacy are scarce. So we decided to explore the immediate and long-term outcomes of repeat (redo) percutaneous mitral valvuloplasty (PMV) in a series of patients with mitral restenosis in comparison with initial PMV in the same series and to determine prognostic factors of outcomes.

METHODS A retrospective study enrolling a population of 170 patients treated by PMV in the university hospital Habib Thameur, Tunisia, between January 1997 and January 2011. The study group consisted of 50 patients (mean age 47±10 years) who underwent a redo PMV. All redo PMV procedures were performed using the Inoue balloon system. Procedural success was defined as 50% or more increase of mitral valve area (MVA) with a final MVA ≥1.5 cm², without major complications. Restenosis was defined as loss of >50% of the initial gain of MVA by the preceding PMV with a final MVA <1.5 cm².

RESULTS Successful procedural result was achieved in 81.1% of patients. There were no in-hospital complications. Both the initial and redo procedures were similar concerning the final increase of mitral valve area, the decrease of mean transmitral pressure gradient and the mean pulmonary artery pressure (P<0.001 for all). The Procedural success and the gain of MVA were higher in the initial as compared to the redo procedure (P<0.05). The only independent predictor of redo PMV success was an echocardiographic score <8. Early symptomatic improvement after redo PMV of ≥1 NYHA functional class was obtained in 95% of the patients. The mean follow-up was 80, 85±35 months. There were no deaths and restenosis was noted in 40%. Eight (16%) patients required mitral valve replacement (34.21 months after redo PMV) due to recurrent symptoms. The predictive factors of restenosis identified by the univariate analysis in our study were: previous surgical commissurotomy (p=0.01) and a high echocardiographic score (p=0.028).

CONCLUSIONS Repeat PMV is safe and provides good immediate results in patients with restenosis after successful first procedure. Long-term results of redo PMV are satisfactory and related mainly to the echo score.

CATEGORIES STRUCTURAL: Valvular Disease: Mitral

TCT-706

Sustained improvement of mitral regurgitation and symptoms after MitraClip® - The results of the Swiss nationwide investigator-initiated prospective registry MitraSwiss

Daniel Suerder,¹ Catherine Klersy,² Giovanni Pedrazzini,¹ Tiziano Moccetti,¹ Stefan Toggweiler,³ Peiman Jamshidi,³ Stephan Windecker,⁴ Fabien Praz,⁴ Stephane Noble,⁵ Barbara Naegeli,⁶ Osmund Bertel,⁶ Peter Buser,⁷ Raban Jeger,⁷ Andre Vuilliminet,⁸ Olivier Muller,⁹ Oliver Gaemperli,¹⁰ Francesco Maisano,¹⁰ Jürg Grünenfelder,¹¹ Paul Erne,¹² Roberto Corti¹¹

¹Cardiocentro Ticino, Lugano Switzerland, Lugano, Switzerland; ²IRCCS Fondazione Policlinico San Matteo, Pavia, Italy; ³Luzerner Kantonsspital, Lucerne, Switzerland; ⁴Bern University Hospital, Bern, Switzerland; ⁵University Hospital of Geneva, Geneva, Switzerland; ⁶HerzGefässZentrum, Klinik im Park, Zurich, Switzerland; ⁷University Hospital Basel, Basel, Switzerland; ⁸Kantonsspital Aarau, Aarau, Switzerland; ⁹University Hospital, Lausanne, Vaud; ¹⁰University Hospital of Zurich, Zurich, Switzerland; ¹¹HerzKlinik Hirslanden, Zurich, Switzerland; ¹²Clinic St. Anna, Luzern, Switzerland

BACKGROUND Percutaneous mitral valve repair (PMVR) using the MitraClip®-system has become a valid alternative for patients with severe mitral regurgitation (MR) and high surgical risk. For a lack of evidence deriving from randomized trials, data from high volume registries is therefore of interest. Herein, we report the results of the