regarding EDD (p=0.6) and EF (p=0.2), but Mitraclip patients had higher sPAP (52±16 vs 42±15 mmHg,p=0.02) and tricuspid regurgitation>2 (25% vs 0%, p=0.001). MitraClip was successful in all but 1 patient. Postoperative complications for MitraClip and surgery were respectively: low cardiac output syndrome 8.3% vs 36.4% (p=0.02), acute kidney disease 16.7% vs 45.4% (p=0.03), transfusions 8.3% vs 40.9% (p=0.009). Median length of stay was 4 vs 8 days (p=0.0003) and home-discharge was 91.3% vs 0% (p=0.0001) respectively. One death occurred in Mitra-Clip group (p=0.3). Acute residual MR>2 was 12.5% vs 0% (p=0.0001) for MitraClip and surgery. Median follow-up was 1.1(0.6-2) vs 2.8(1.4-4) years for MitraClip and surgery (p=0.0005). Compared to baseline NYHA>2 decreased to 13.6% in MitraClip (p=0.0002) and to 5.3% in surgical (p=0.01) patients, becoming similar among the groups (p=0.3). No difference between MitraClip and surgery was observed in QoL (all p>0.05). EDD was similar (p=0.4), but sPAP remained higher in MitraClip patients (42±14 vs 31±6 mmHg, p=0.01). Actuarial 1.5 years freedom from cardiac death for MitraClip and surgery was 91.6% vs 100% (p=0.2), whereas freedom from MR>2 was 89% vs 100% respectively (p=0.01).

Conclusions: Although surgery more effectively reduced MR, superior acute and short-term clinical benefits were achieved after MitraClip, despite patients older age and heavier comorbidities burden.

TCT-701

TRANSCATHETER MITRAL VALVE IN VALVE IMPLANTATION (MVIV) IN TEN PATIENTS: SYMPTOMS, GRADIENT AND FUNCTIONAL STATUS UP TO THREE YEARS POSTOPERATIVELY

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Background: MVIV has been performed in more than 130 patients worldwide, and the recourse to this procedure is expected to rise consistently due to the increasing use of bioprostheses and to the risks related to redo mitral valve replacement. However, there is some concern that the excellent early hemodynamic results of MVIV could be nullified by the development of significant transvalvular gradients at follow-up. We report our experience with MVIV, with particular emphasis on the follow-up

Methods: From 2010 10 patients underwent MVIV with the Edwards Sapien valve (THV) at our institution. The mean age was 75.7 years (range 43-87) and the STS score was 8.4 (3.9-21.9). All patients were heavily symptomatic. The mechanism of bioprosthesis failure was stenosis (2 patients) regurgitation (1) or mixed (7). The mean transprosthetic gradient was 12.5±3.6 mmHg. All the procedures were transapical. Balloon predilatation was never used

Results: In the first patient the transcatheter valve was inflated at the level of the prosthesis sewing ring, it splayed the prosthesis struts and embolized in the ventricle. The procedure was converted to open surgery and ended with a well-functioning THV, but the patient died two days later for multi-organ failure. There were no other in-hospidal deaths. Two patients died during the follow-up, for pneumonia and endocarditis at 1 and 8 months postoperatively. The mean gradient at discharge fell significantly to 5.2±1.2 and only 1 patient had moderate intervalvular regurgitation. At follow-up (median 420 days), all patients were alive and well in NYHA class≤2. The mean transprosthetic gradient was 7±2.7 and 2 patients had a gradient >10 mmHg. In both these patients, the THV had been significantly oversized compared to the surgical bioprosthesis (26 mm Sapien in 25 mm Carpentier and 29 mm Sapien in 29 mm Mosaic)

Conclusions: MVIV is a safe alternative in high risk patients with malfunctioning mitral prostheses, and allows excellent haemodynamic and clinical results. In our series, the appearance of a significant transvalvular gradient at follow-up was not associated to echocardiographic signs of structural deterioration, and was possibly related to the degree of oversizing of the THV

TCT-702

Three-dimensional color Doppler transesophageal echocardiography is helpful in determining the number of MitraClip devices

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Background: In the MitraClip procedure, one or more clips are implanted to reduce mitral regurgitation (MR). Cross-sectional assessment of MR size can be assessed on three-dimensional transesophageal echocardiography (3D TEE), however its role in the MitraClip procedure has not been determined. This study will explore the value of the cross-sectional assessment of MR jet in predicting the number of clips.

Methods: 3D TEE assessment with color Doppler was performed in 24 patients (age 73±11 years; 67% men; 63% functional MR) who underwent successful MitraClip procedure (reduction of MR to ≤2+). Manual tracing of MR jet in a cross-sectional plane through the level of the valve was obtained (Figure). The curved length and area of MR jet was compared between patients who received 1 clip (n=9) and 2 clips (n=15).

Results: Patients who received 2 clips had significantly larger curved length and area of MR jet compared to patients who received 1 clip (1.34±0.5 cm vs. 2.13±0.5 cm, p<0.05 and 0.58±0.4 cm2 vs. 1.06±0.4 cm2, p<0.05, respectively). In receiver-operating characteristic analysis, the curved length and area of MR jet had a high discriminatory value for 2nd clip implantation: This was with the area under the curve of 0.92 (95% CI, 0.76-1.00; p<0.05) and 0.87 (95% CI, 0.69-1.00; p<0.05), respectively. A cutoff value of the curved length and area of MR jet was 1.51 cm (sensitivity=100% and specificity=89%) and 0.59 cm2 (sensitivity=94% and specificity=78%), respectively.

Conclusions: The cross-sectional assessment of MR jet using 3D TEE is helpful in determining the number of MitraClip devices.

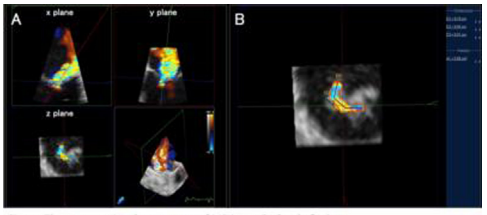

Figure. The cross-sectional assessment of MR jet at the level of valve.
A. Three orthogonal planes (x, y, and z plane) were displayed automatically using three-dimensional QLab software (Philips Medical Systems). The z plane was realigned to the level of valve on the x and y plane. Accordingly the z plane demonstrated the MR jet in a cross-sectional plane through the level of the valve.
B. On the z plane, the area (area circled with red line) and curved length (purple line) of MR jet were measured.

TCT-703

Six Month Outcomes of an Initial Cohort of Patients Treated in the Australia and New Zealand (ANZ) MitraClip Registry.

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Background: The ANZ MitraClip Registry is a prospective, fully audited, single arm study of patients with severe symptomatic mitral regurgitation (MR) treated by MitraClip implantation. Six month clinical and echocardiographic outcomes are described.

Methods: The Registry is currently enrolling patients treated at 3 sites in Australia with plans to include up to 10 sites. Baseline demographics, echo parameters and functional data were collected at baseline, pre-discharge, 30days, 6 months and 12 months.

Results: To date, 45 patients at high risk for mitral valve surgery have been included in the Registry. The age was 75±9yrs (52%>75yrs old), 72% were male, and 72% had a history of prior cardiac surgery. The majority (76%) had functional MR, 42% had LVEF <40%. The STS Mortality risk score was 15.8±13.1%. The procedure time was 133±43mins, fluoroscopy time was 42±38mins, and post-procedure length of stay was 4.0±4.6days. All patients were discharged home. One clip was implanted in 27%, 2 clips in 62% and 3 clips in 11%. At 30days, there were no deaths, strokes or myocardial infarctions, and no need for mitral surgery. Major bleeding occurred in 8 patients (18%). At six months, the mortality was 0%. MR severity was moderate to severe or severe (3-4+) in 24.1% (vs 97.7% at baseline), NYHA class III or IV was recorded in 16.6% (vs 66.6% at baseline), and 6 minute walk distance had increased from 265±132m to 324±170m (p<0.05). When compared with baseline values, the LV regurgitant volume fell from 60.8±42.6mls to 30.3±14.4mls, LVEDV fell from 163.0±73.1 to 153.3±91.1mls, and the LVESV fell from 98.9±69.2 to 95.0±82.1mls. The LVEF was 45.6±16.9 at baseline and 45.6±17.7% at 6mths. The MLWHF quality of life score was 49.3±23.2 at baseline and 27.6±22.8 (p<0.0001) at six months.

Conclusions: In this prospective study, the majority of patients have been elderly with multiple co-morbidities and a predominance of functional MR. Although early in each centre's experience, implant success rates are high, complications are low, and at 6 months, significant improvements have been achieved in MR severity, LV mechanics, functional class and quality of life.

POSTERS