Methods: From November 2005 to October 2013, 174 patients underwent the MitraClip procedure in our institute. These patients were classified into first 50 patients (period 1), second 50 patients (period 2), and the other 74 patients (period 3), and learning curve was evaluated by comparison of procedural results and the subsequent recurrence of MR between the 3 groups. All MitraClip procedures were performed by or under the supervision of a single operator (S. Kar).

Results: Fluoroscopic time was 45.1 ± 18.2 min in period 1, 42.7 ± 23.1 min in period 2, and 34.8 ± 13.8 min in period 3, and significantly decreased from period 1 to period 3 (p < 0.007). The number of clips was 1.38 ± 0.57 in period 1, 1.48 ± 0.51 in period 2, and 1.60 ± 0.52 in period 3 (p = 0.07). Although acute procedural success (residual MR ≤ 2+) immediately after the procedure) was similarly achieved in the 3 groups (94.0% vs. 94.0% vs. 98.6%, p = 0.31), the distribution of residual MR grade after the procedure was significantly better in period 3 than in period 1 (p = 0.04). Among patients with acute procedural success, recurrent MR within 1 year was observed more frequently in period 1 (38.3%) than in period 2 (10.6%, p = 0.002) and period 3 (15.3%, p = 0.004).

Conclusions: Learning curve of the MitraClip procedure was observed in terms of procedural quality and device durability. When starting the MitraClip program, these findings should be considered.

Categories: Structural: Mitral

Keywords: Learning curve, Mitraclip, Mitral regurgitation therapy

TCT-703 Accuracy and Procedural Characteristics of Radiofrequency Compared With Standard Needle Transseptal Puncture for Structural Heart Interventions

Gaurav Sharma,1 Gagan D. Singh,1 Thomas W. Smith,1 Dali Fan,1 Reginald Low,1 Jason H. Rogers1
1UC Davis Medical Center, Sacramento, CA

Background: Targeted transseptal (TS) puncture is an essential technique for many structural heart interventions. Spatial accuracy of standard versus radiofrequency (RF) needles has not previously been reported.

Methods: Consecutive patients undergoing left-sided structural heart interventions requiring TS puncture were included in an ongoing registry. The BRK needle (St Jude Med) paired with Mullins sheath (Medtronic) was used alternately with RF needle (Baltis Med) paired with SL1 Sheath (St Jude Med). Procedural times were: (1) RF access yielded accurate crossing technique with no statistical differences are shown in the Table. TS procedural times significantly favored the RF needle group due to inability to puncture. Data is reported in an “as treated” analysis. Left-sided heart interventions included the MitraClip (N = 35), Watchman (N = 9), and Lariat (N = 7) procedures and percutaneous balloon mitral valvuloplasty (N = 1). The principal findings are shown in the Table. TS procedural times significantly favored the RF needle for time from septum to puncture. Both standard and RF access yielded accurate crossing technique with no statistical differences between the intended and actual crossing site. Maximal tenting was significantly less with the RF needle. Few patients had challenging atrial anatomy such as atrial septal aneurysm, thickened septum primum or prior TS attempts. 2 patients in the standard arm required the mandril wire for assistance to cross. There were no major complications.

Results: 25 patients underwent standard needle and 27 RF needle TS access. 2 patients crossed over from the standard needle group to the RF group due to inability to puncture. Both standard and RF access yielded accurate crossing technique with no statistical differences between the intended and actual crossing site. Maximal tenting was significantly less with the RF needle. Few patients had challenging atrial anatomy such as atrial septal aneurysm, thickened septum primum or prior TS attempts. 2 patients in the standard arm required the mandril wire for assistance to cross. There were no major complications.

Conclusions: Learning curve of the MitraClip procedure was observed in terms of procedural quality and device durability. When starting the MitraClip program, these findings should be considered.

Categories: Structural: Mitral

Keywords: Learning curve, Mitraclip, Mitral regurgitation therapy

TCT-704 Association of Learning Curve with Procedural Results and Recurrence of Mitral Regurgitation After Percutaneous Mitral Valve Repair with MitraClip System

Shunsuke Kubo,1 Yukiko Mizutani,1 Emily Tat,1 Asma Hussaini,1 Mamoo Nakamura,1 Takahiro Shiota,1 Robert Siegel,1 Alfredo Trento,1 Saibal Kar1
1Cedars-Sinai Medical Center, Los Angeles, CA

Background: Percutaneous mitral valve edge-to-edge repair using the MitraClip system has been widespread for significant mitral regurgitation (MR) patients with high surgical risk. Learning curve is an important concern for the institute which introduce the MitraClip procedure in the future. In this study, the effect of learning curve on the procedural results and recurrent MR was investigated.

Methods: From November 2005 to October 2013, 174 patients underwent the MitraClip procedure in our institute. These patients were classified into first 50 patients (period 1), second 50 patients (period 2), and the other 74 patients (period 3), and learning curve was evaluated by comparison of procedural results and the subsequent recurrence of MR between the 3 groups. All MitraClip procedures were performed by or under the supervision of a single operator (S. Kar).

Results: Fluoroscopic time was 45.1 ± 18.2 min in period 1, 42.7 ± 23.1 min in period 2, and 34.8 ± 13.8 min in period 3, and significantly decreased from period 1 to period 3 (p < 0.007). The number of clips was 1.38 ± 0.57 in period 1, 1.48 ± 0.51 in period 2, and 1.60 ± 0.52 in period 3 (p = 0.07). Although acute procedural success (residual MR ≤ 2+) immediately after the procedure) was similarly achieved in the 3 groups (94.0% vs. 94.0% vs. 98.6%, p = 0.31), the distribution of residual MR grade after the procedure was significantly better in period 3 than in period 1 (p = 0.04). Among patients with acute procedural success, recurrent MR within 1 year was observed more frequently in period 1 (38.3%) than in period 2 (10.6%, p = 0.002) and period 3 (15.3%, p = 0.004).

Conclusions: Learning curve of the MitraClip procedure was observed in terms of procedural quality and device durability. When starting the MitraClip program, these findings should be considered.

Categories: Structural: Mitral

Keywords: Learning curve, Mitraclip, Mitral regurgitation therapy