Comparison of the Right and Left Radial Artery Approach

Twelve-month Clinical Outcomes of Transradial Coronary Artery Intervention: Comparison of the Right and Left Radial Artery Approach

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Background: The transradial intervention (TRI) has several advantages such as reduction of bleeding risk, improvement of patients’ convenience, and immediate ambulation as compared with the transfemoral intervention (TFI). In TRI, there are some anatomical and technical differences between right and left radial approach. The aim of this study is to evaluate the impact of the choice of the right or left radial approach on 12 months clinical outcomes in patients undergoing TRI.

Methods: A total of 1,653 consecutive patients underwent TRI were enrolled from April 22, 2013 to March 31, 2014. All the patients had successfully undergone TRI using radial approach. The inclusion criteria were patients over 18 years old undergoing TRI with single or multiple lesions. Patients with left main or unprotected left main stenosis, or those receiving aortic valve replacement were excluded. A total of 1,100 pts (550 pairs) were enrolled for this analysis. Analysis was performed using the logistic regression model (C-statistics: 0.726). After PSM, total of 1,100 pts (550 pairs) were enrolled for this analysis. However, contrast volume during procedure were longer in left approach group. After PSM, procedural and in-hospital complications were similar between two groups; right radial approach group (n = 550) and left radial approach group (n = 550). To adjust potential confounders, propensity score matched (PSM) analysis was performed using the logistic regression model (C-statistics: 0.726). After PSM, total of 1,100 pts (550 pairs) were enrolled for this analysis.

Results: After PSM, the baseline clinical and angiographic characteristics were balanced between two groups. However, contrast volume during procedure were longer in left approach group (22.5 ± 28.0 min vs. 17.1 ± 12.6 min) were longer in right radial approach group (259.3 ± 119.6 cc vs. 227.0 ± 90.7 cc, p-value < 0.001), whereas procedure time (49.2 ± 30.4 min vs. 55.4 ± 28.7 min, p-value =0.003) were longer in left approach group. After PSM, procedural and in-hospital complications were similar between the two groups. The cumulative clinical outcomes up to 12 months including mortality, recurrent myocardial infarction (MI), repeat revascularization, stent thrombosis and MACE were similar between the two groups (Table).

Conclusion: In this study, despite the procedural efficacy including procedural time and contrast volume were increased in right artery approach, however, 12 months cumulative clinical outcomes were similar between the two groups.

Valvular Heart Disease

Comparison of Multi-detector Row CT Morphology Between CoreValve and Edwards Sapien Valve After Transcatheter Aortic Valve Implantation

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Background: This study sought to compare the morphological characteristics and underlying mechanism of paravalvular leak (PVL) after CoreValve (Medtronic, Santa Rosa, California) and Edwards valve (Edwards Lifesciences, Irvine, California). Methods: A total of 68 TAVI patients (aged 84.2±7.4 years, Logistic EuroSCORE 7.4 years, Logistic EuroSCORE 21.5±12.4) who had pre and post-procedural multidetector computed tomography (MDCT) were studied. Results: In this cohort, 43 (63.2%) patients were treated with the CoreValve and the remaining 25 (36.8%) patients received the Edwards valve. Post-TAVI eccentricity index was significantly higher in patients of the CoreValve group at each level of prosthesis (stenosis bottom 18.4 ± 2.93 vs 5.2 ± 4.0, p < 0.01, annulus level, 19.0 ± 8.9 vs 5.8 ± 7.8, p < 0.01, leaflet level 16.6 ± 8.3 vs 4.5 ± 3.5, p < 0.01). By multivariate analysis, only the Valve Calcification Index (aortic valve calcification volume/body surface area) was identified as independent predictor of any post-procedural PVL after CoreValve implantation (odds ratio OR 1.002, 95% confidence interval CI 1.000-1.004, p = 0.03). In patients with Edwards valve, post-TAVI eccentricity index (leaflet level) was identified as an independent predictor of post-procedural PVL (OR 1.31, 95% CI 1.02-1.68, p = 0.04).

Conclusion: Post-TAVI valve eccentricity was more frequently observed in CoreValve implantation than after Edwards valve implantation. Valve eccentricity was associated with PVL after Edwards valve implantation but not after CoreValve implantation probably because of the supra-annular design of the CoreValve.

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