Sex-related Differences in Adverse Outcomes Following Percutaneous Coronary Intervention with Rotational Atherectomy

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Background: We aimed to describe sex-related differences in adverse outcomes of percutaneous coronary intervention (PCI) with rotational atherectomy (RA) in patients with coronary artery disease.

Methods: Consecutive patients undergoing PCI from a tertiary teaching hospital were recruited into a registry with procedural, in-hospital and 30-day outcomes prospectively collected. Further in-depth procedural RA data was retrospectively obtained. The primary endpoint was occurrence of a RA-related complication defined as coronary artery dissection, slow or no reflow, perforation or cardiac tamponade. Secondary endpoints included each component of the primary endpoint as well as intra-procedural, hypotension and need for inotropic pharmacological support, PCI success rates, mortality and major cardiac/cerebrovascular events (MACCE).

Results: Between 2010-2018, 123 patients (32% female) underwent RA, mean age 72 ± 10 years. Female patients were significantly older (p < 0.001). Angiographic PCI success was obtained in 87% of women versus 96% of men (p = 0.03). The primary endpoint occurred in 79% of women versus 21% of men (p < 0.001). Women had higher rates of coronary artery dissection (21% versus 2%, p < 0.001), with no statistical difference in slow/no reflow, perforation or cardiac tamponade. No sex difference was seen in intra-procedural hypotension and need for inotropic pharmacological support. Overall 30-day mortality and MACCE was 1.6% and 4%, respectively, with no significant difference between genders.

Conclusion: Female patients undergoing PCI with RA were more likely to experience RA-related complications, particularly coronary artery dissection. However overall rates of PCI success were high and 30-day MACCE acceptably low in both genders.

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Six-year Registry Data for Patients with Left Ventricular Dysfunction and Severe Mitral Regurgitation Undergoing Transcatheter Repair with the MitraClipTM System at St Vincent's Hospital, Sydney

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Background: We present the 6-year registry data for all patients with left ventricular (LV) dysfunction (ejection fraction [EF] <55%) and severe mitral regurgitation (MR) undergoing MitraClipTM repair at our institution.

Objectives: To examine the efficacy and safety of MitraClipTM repair at our institution.

Methods: This is a single-centre, retrospective, observational cohort study of patients’ who underwent MitraClipTM repair between November 2011 and November 2017. All demographic data was manually extracted from the electronic medical records. Pre and post-operative transthoracic echocardiograms were analysed by two blinded independent investigators using Epsilon Imaging® for LVESV, LV end-diastolic and end-systolic volumes (LVEDV and LVESV) and MR.

Results: 48 patients (age 79±9 years; 32 men) with grade 3–4 MR underwent MitraClipTM repair. The pre-operative Euroscore II was 8.0 ± 6.1 (n = 45). MR aetiology was primary in 48% and secondary/mixed in 52% of patients. 1+ MR or less was achieved in 77% of patients and 3+ MR remained in 2 patients. There was no significant reduction in LVESV, LVEDV or improvement in LVEF. There was an average of 1.67 of clips per patient. There were no acute deaths, one stroke and no myocardial infarctions. One patient had acute leaflet rupture, another required pericardiocentesis for tamponade. The length of stay was 3.8 ± 3.7 days. Successful device implantation free of cardiovascular mortality, stroke, and device malfunction at 30 days was 92%.

Conclusions: MitraClipTM repair at our institution is an effective and safe therapy for selected patients with LV dysfunction and symptomatic MR not suitable for conventional mitral valve surgery.

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