Sex Differences in Procedural Outcomes with Left Atrial Appendage Occlusion: Insights from the NCDR LAAO Registry

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ABSTRACT

Importance: Left atrial appendage occlusion (LAAO) has emerged as an alternative to anticoagulation in select patients with atrial fibrillation (AF); however, women have been underrepresented in clinical trials of LAAO and sex-specific sub-analyses are limited.

Objective: To evaluate the sex differences in baseline characteristics, in-hospital outcomes, and post implant antithrombotic therapy following LAAO implantation.

Design, Setting, and Participants: Using the National Cardiovascular Data Registry LAAO Registry, patients undergoing LAAO implantation with the Watchman device between January 2016 and June 2019 were included. Unadjusted and multivariable adjusted logistic regression analyses were performed to assess sex differences in in-hospital adverse events and post implant antithrombotic therapy.

Exposures: Female or male sex.

Main Outcome and Measure: The primary outcomes were major adverse event, any adverse event, prolonged hospital stay >1 day, and death.

Results: A total of 20,388 (41.3%) women and 28,969 (58.7%) men underwent Watchman implantation. Compared with men, women were older and had a higher prevalence of paroxysmal atrial fibrillation, prior stroke, and uncontrolled hypertension, but lower prevalence
of congestive heart failure, diabetes, and coronary artery disease. After multivariable adjustment, women were more likely than men to experience any adverse event (odds ratio [OR] 1.63, 95% confidence interval [CI] 1.49 – 1.77, p<0.001), major adverse event (OR 2.06, 95% CI 1.82 – 2.34, p < 0.001), hospital stay >1 day (OR 1.46, 95% CI 1.38 – 1.54, p<0.001) and death (OR 2.01, 95% CI 1.31 – 3.09, p=0.001). Furthermore, women were more likely than men to be discharged on anticoagulant alone (direct oral anticoagulant: OR 1.07, 95% CI 1.01 – 1.13, p = 0.02; warfarin: OR 1.12, 95% CI 1.05 – 1.19, p = 0.005), and less likely to receive anticoagulant plus single antiplatelet agent (OR 0.91, 95% CI 0.87 – 0.94, p<0.0001).

**Conclusions and Relevance:** Compared with men, women have a significantly higher risk of in-hospital adverse events and mortality following Watchman implantation. Further research aimed at risk-reduction strategies in women undergoing LAAO is warranted.