

Impact of sex on outcomes after percutaneous repair of functional mitral valve regurgitation

Vincent Chan¹, David Messika-Zeitoun¹, Marino Labinaz¹, Mark Hynes¹, Donna Nicholson¹, Adam Dryden², Thierry Mesana², and Ben Hibbert²

¹University of Ottawa Heart Institute

²Affiliation not available

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Abstract

Background The role of percutaneous repair of functional mitral regurgitation (MR) is evolving. Left ventricle remodeling is known to be different between men and women; however, outcomes following percutaneous repair of functional MR have not considered the impact of sex. **Methods** Between 2012 and 2018, 175 patients underwent percutaneous repair of functional MR with the Mitra Clip NT/NTR (Abbott, Irvine CA) at our institution. Patients were assessed in a dedicated clinic with a follow-up that averaged 0.7 ± 1.2 years and extended to 5.7 years. **Results** Men had a larger body surface area than women ($p < 0.001$), whereas women were more likely than men to have diabetes preoperatively ($p = 0.02$). There were no deaths or instances of single leaflet detachment. Immediate post-procedure MR was $< 2+$ in 158 (90%) with a mean trans-mitral valve repair gradient of 3.4 ± 1.0 and 3.5 ± 2.1 mm Hg, respectively for women and men ($p = 0.8$). One- and 2-year freedom from MR $> 3+$ was $86.0 \pm 3.5\%$ and $77.6 \pm 5.1\%$, respectively. After adjusting for differences between male and female patients, women were more likely to have recurrent MR $> 3+$ (hazard ratio 4.7, 95% confidence interval 1.2-18.4, $p = 0.03$). Upon adjusted analysis, there was also no association between gender and survival ($p = 0.2$). One- and 2- year survival was $69.8 \pm 4.3\%$ and $54.3 \pm 5.5\%$, respectively. **Conclusion** Women are more likely to have recurrent severe MR after percutaneous repair of functional MR. The mechanism for this remains undetermined.

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