

Radial Artery Access is Under-utilized in Women Undergoing PCI Despite Potential Benefits: Mayo Clinic PCI Registry

Rebecca Chester, MD¹; Bradley Lewis², MS; Nan Zhang, MS¹; Richard Butterfield, MS¹; Eric H. Yang, MD¹

¹*Mayo Clinic, Arizona*

²*Mayo Clinic, Rochester*

Background

Radial artery access (RAA) for percutaneous coronary intervention is associated with reduced bleeding complications compared to femoral access. Women are at greater risk for bleeding compared to men, and therefore stand to benefit from utilization of RAA.

Methods

We studied 21,123 (29.0% female) participants in the Mayo Clinic PCI Registry from January 1, 2006 – December 31, 2016. Data were analyzed as a 10-year cohort and separated in tertiles by time. We sought to 1) describe radial access use and co-morbidities over tertiles by sex, and 2) identify predictors of radial access using multivariable analysis.

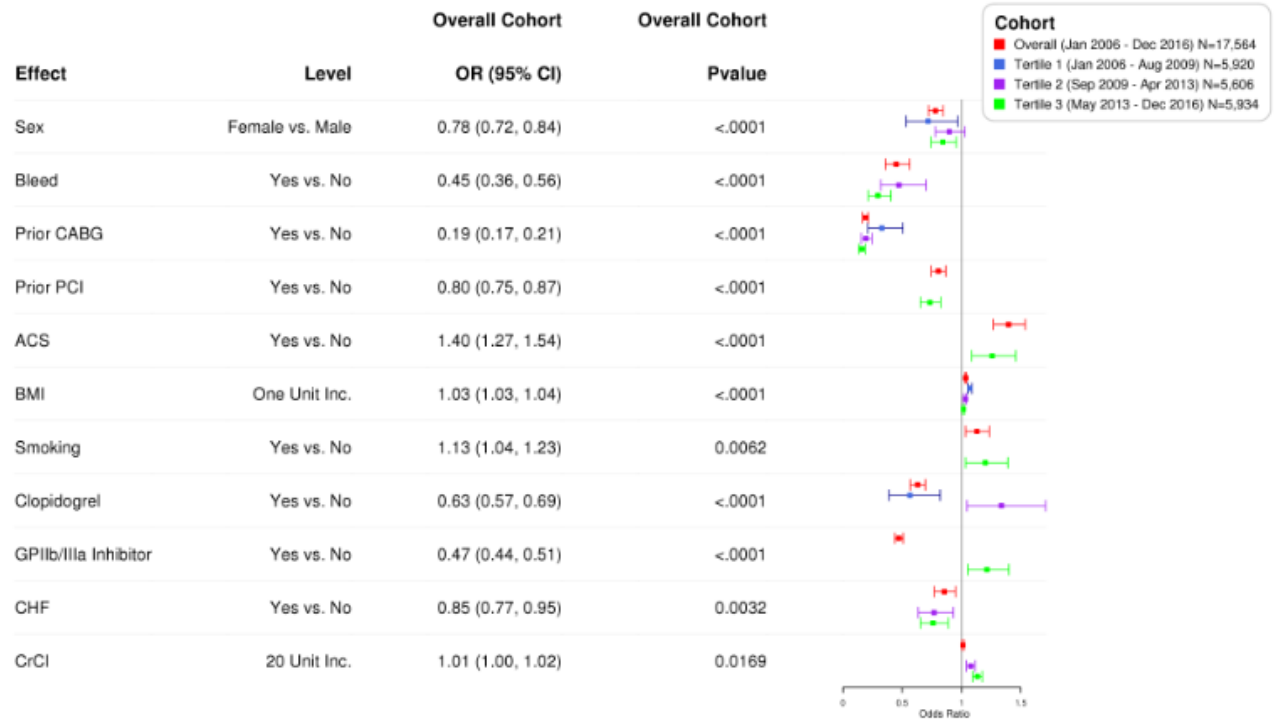
Results

In the overall cohort, women compared to men were older (69.6 ± 12.6 vs. 65.6 ± 11.9 ; $p < 0.001$), more likely to present with an acute coronary syndrome (82.0% vs. 80.0%; $p = 0.0008$) and had more comorbidities. RAA increased from tertile one (3.5% vs. 4.0%; $p = 0.3$) through tertile three (46.8% for women vs. 50.3% for men; $p = 0.01$), but remained lower in women. In multivariable analysis, female sex is associated with 22% less RAA use (OR 0.78, 95%CI 0.72-0.84; $p < 0.0001$). Women compared to men experienced more bleeding (6.3% vs. 3.0%; $p < 0.0001$) but bleeding was less likely in RAA (OR 0.45, 95%CI 0.36-0.56; $p < 0.0001$).

Conclusion

Women undergoing PCI are less likely to receive RAA compared to males despite fewer bleeding events with this technique. This trend persists despite dramatic increase in RAA use. Given the potential benefit of RAA in women, sex should be considered in patient selection for a radial approach.

Figure 3. Multivariable Logistic Regression Comparing Predictors of Trans-Radial Access between the Overall Cohort and Time Tertiles



Cohort
 Overall (Jan 2006 - Dec 2016) N=17,564
 Tertile 1 (Jan 2006 - Aug 2009) N=5,920
 Tertile 2 (Sep 2009 - Apr 2013) N=5,606
 Tertile 3 (May 2013 - Dec 2016) N=5,934