FEMALE GENDER IS ASSOCIATED WITH HIGHER DEGREE OF ATRIAL FIBROSIS AS DETECTED USING DELAYED-ENHANCEMENT MRI

ACC Poster Contributions
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Authors: Nathan Burgon, Christian Mahnkopf, Jeremy Fotheringham, Nazem Akoum, Thomas S. Haslam, Troy J. Badger, Eugene G. Kholmovski, Rob S. MacLeod, Nassir F. Marrouche, Comprehensive Arrhythmia and Research Management (CARMA) Center, University of Utah, Salt Lake City, UT

Background: Although the prevalence of atrial fibrillation (AF) is greater among men than women, the absolute number of men and women diagnosed with AF is about equal. We sought to evaluate the relationship between gender and the Utah class of staging left atrial (LA) fibrosis in patients with AF.

Methods: 343 patients had delayed-enhancement MRI (DE-MRI) to assess atrial fibrosis on presentation to the AF clinic. Each DE-MRI was segmented by isolating the LA wall and quantify for the relative extent of fibrotic remodeling using a threshold-based algorithm. Patients were placed in four staging categories: Utah I (<5% LA wall fibrosis), Utah II (5-20%), Utah III (20-35%) and Utah IV (>35%).

Results: Mean gender distribution showed female AF (n=122) patients had a higher overall mean enhancement 18.52±11.52% compared to male AF patients 15.71±10.67% (p=0.0242) [Figure 1A]. Females also had a mean age of 67.27±11.9 years compared to males 61.99±11.69 years (p<0.0001). With increasing Utah stages, the patient was less likely to be male [OR=0.64, p=0.007, Figure 1B]. No significant difference was found when comparing gender and AF type; paroxysmal (p=0.99), persistent (p=0.445) and long-standing persistent (p=0.465).

Conclusion: Our preliminary experience substrate analysis using DE-MRI demonstrates that female gender has higher degree of atrial disease progression on presentation for management of AF. Tools to better diagnose early onset of atrial disease are needed especially in the female AF population.