IMPACT OF OBESITY AND LEFT ATRIAL FIBROSIS ON ATRIAL FIBRILLATION DIAGNOSIS
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Background: Atrial fibrillation (AF) is an irregular heartbeat associated with Left Atrial (LA) tissue remodeling visualized using Delayed Enhancement MRI. It is the most prevalent sustained arrhythmia, with 2.7 million Americans diagnosed in 2016, associated with significant morbidity and mortality. Studies have suggested obesity to be a well-described risk factor for AF because they often coexist. This study aims to evaluate the correlation between AF and obesity.

Methods: 100 Patients underwent delayed-enhancement MRI (DEMRI) for quantification of fibrosis in the left atrium (LA) via Corview software. DEMRI provides a means for Radiologist, Cardiologists, and Electrophysiologists to get a visual understanding of the myopathy and fibroed tissue caused by AF. A record of every patient’s height (kg) and weight (cm) was recorded at time of the MRI. Later a BMI value was calculated using the patient’s height and weight, which was then correlated to LA Fibrosis percentage via Wilkinson-Pearson Linear regression analysis.

Results/Conclusions: The data analysis showed a significant correlation between obesity and the development of AF. The correlation between the BMI and LA Fibrosis shows that as BMI increases so does LA Fibrosis and as a result, the likelihood of being diagnosed with AF. Further analysis, study of patient’s body mass percentages may show a stronger correlation between the existence of adipose tissue and AF.


2 What is Atrial Fibrillation (AFib or AF)? (n.d.). Retrieved February 15, 2017, from http://www.heart.org/HEARTORG/Conditions/Arrhythmia/AboutArrhythmia/What-is-Atrial-Fibrillation-AFib-or-AF_UCM_423748_Article.jsp#.WP5lItTVEE