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Disclosures: Please list any relevant financial disclosures.
N/A

Abstract Topic (must be gender- or sex-specific)

☐ Preventative cardiology ☐ General cardiology ☐ Interventional cardiology
☐ Heart failure ☐ Cardio-oncology ☐ Cardio-obstetrics
☐ Electrophysiology ☒ Cardiovascular Imaging ☐ Coronary Microvasculature
☐ Social Determinants of Health ☐ Mental Health ☐ Precision Medicine

Title:

Sex Differences in Mitral Annular Disjunction Patients Undergoing Cardiac MRI

Background: In an initial paragraph, provide relevant information regarding the background and purpose of the study, preferably in no more than two to three sentences.

Mitral Annular Disjunction (MAD) is associated with mitral valve prolapse (MVP) and is characterized by separation between the LV free wall, left atrium, and the mitral valve (MV) leaflet attachments during systole. This often results in myocardial scarring culminating in sudden fatal arrhythmia, and disproportionately affects women.[1-3] Our study aims to investigate sex differences in parametric mapping features by cardiac magnetic resonance imagining (CMR) in patients identified with MAD

Methods: Briefly state the methods used.

This retrospective study was conducted on 136 patients diagnosed with MVP who underwent consecutive CMRs at a single care center between 2019 and 2022. Of these, 50 were identified with MAD. The severity of MAD was evaluated by SSFP sequenced imaging on 3 chamber axis plane measuring from the mitral disjunction distance from the LV wall to left atrial wall. Parametric polar maps were generated for native T1, T2, and EVC values. When a distinctive semilunar pattern of focally elevated ECV was present remaining segments were ratio to evaluated regions.

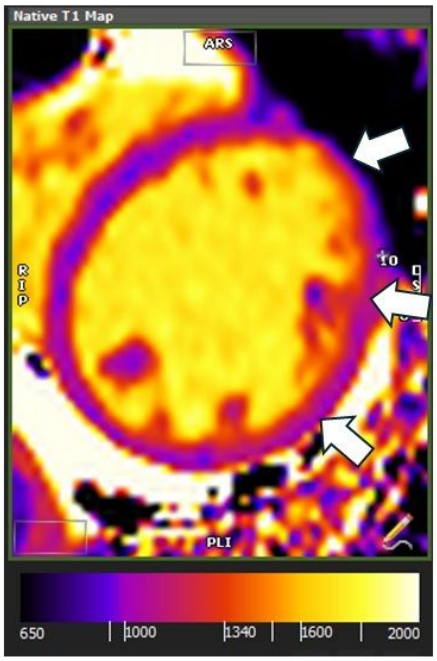
Results: Summarize the results in sufficient detail to support the conclusions.

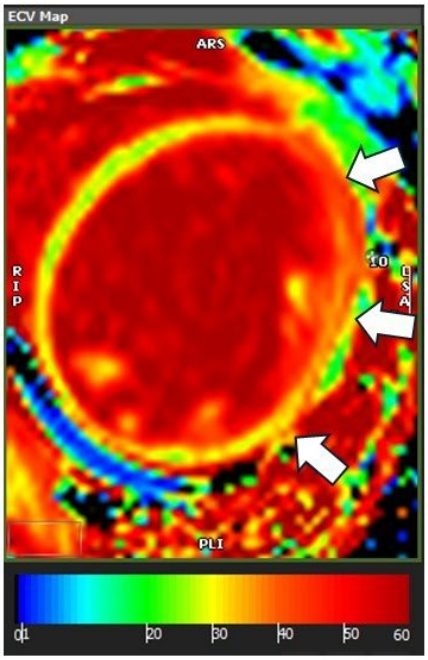
Of the 50 patients with MAD (age 55 ± 15 years; 62% female), the MAD ECV pattern was identified in 35 (70%). The MAD distance measured by CMR was 7 mm (interquartile range [IQR]: 5 to 9mm) in females and 9 mm (IQR: 5 to 13mm) in males. Female patients had greater native T1 values of segments 9-11 when compared to T1 values at segments 1-8 (1087 ± 57 vs 1052 ± 42; $p < 0.001$).

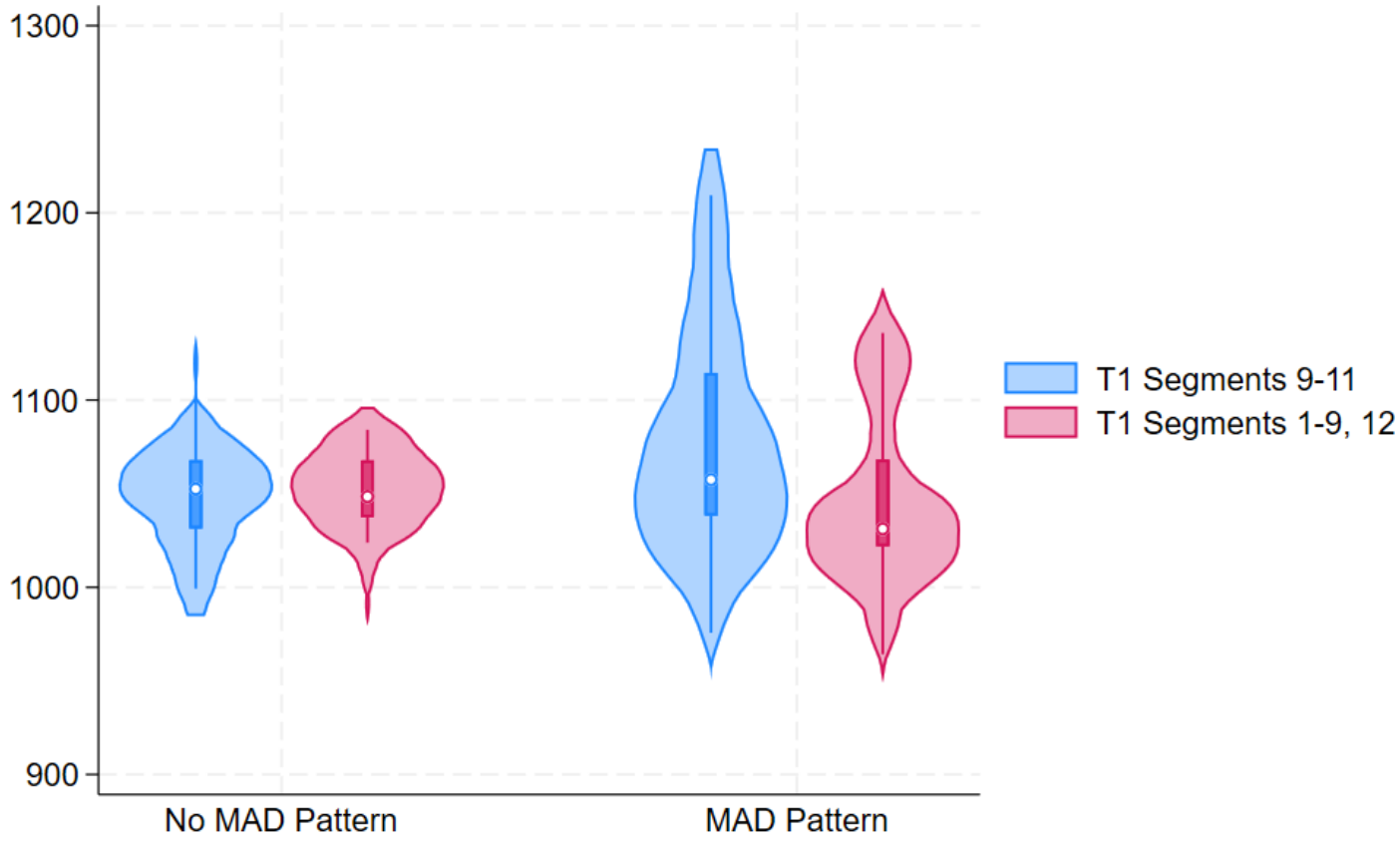
Conclusions: Concisely state the conclusions reached.

In our study we identified a predominance of MAD among female patients and can be identified by an ECV pattern from T1 mapping. Due to a strong association of MAD and fatal cardiac arrhythmic events, the use of standard utilization of ECV mapping and T1 values may be useful tools for providing patients earlier and accurate diagnosis of MAD[4].

Tables/Figures/Graphics: Include images that are part of your submission here. Images should be high resolution and have a file type of "gif", "jpg", or "jpeg".






1300
1200
1100
1000
900
No MAD Pattern
MAD Pattern
T1 Segments 9-11
T1 Segments 1-9, 12