

# Cardiac Magnetic Resonance Imaging (CMR) in Myocardial Infarction with Non-Obstructive Coronary Arteries (MINOCA): Exploring Sex Differences

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## INTRODUCTION

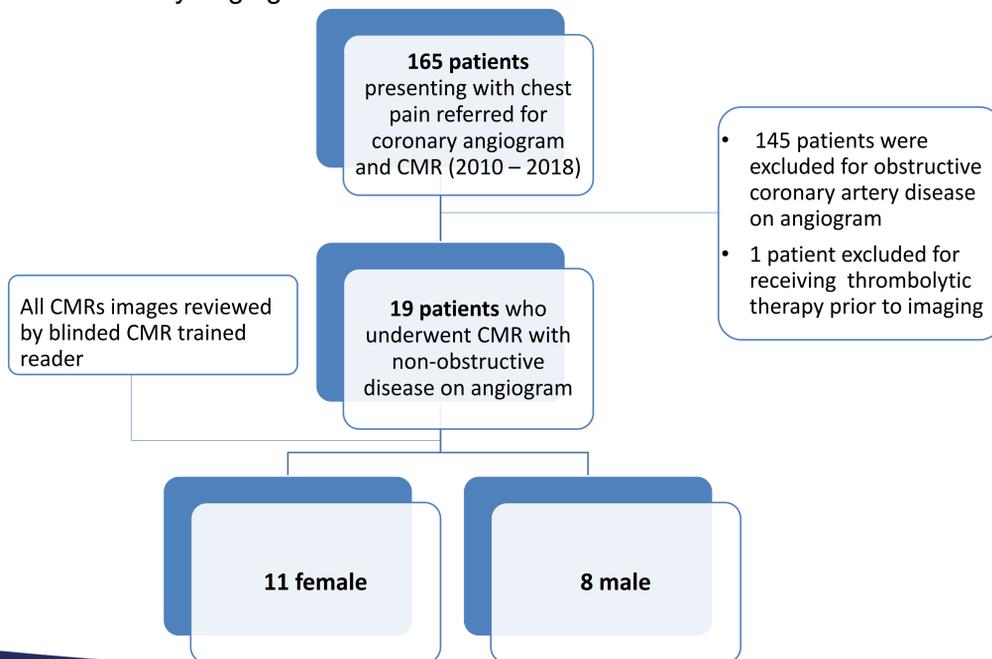
- Prior studies have demonstrated that men presenting with myocardial infarction with non-obstructive coronary arteries (MINOCA) are at higher risk of mortality as compared to women
- The differences in the pathophysiologic mechanisms of MINOCA between genders is less clear

## OBJECTIVE

- To understand the mechanisms of MINOCA as assessed by cardiac MR (CMR) in order to compare findings between genders

## STUDY DESIGN

Retrospective observational review of patients presenting to University of Kentucky with a primary chest presentation who were referred for coronary angiogram and also underwent CMR.



## RESULTS

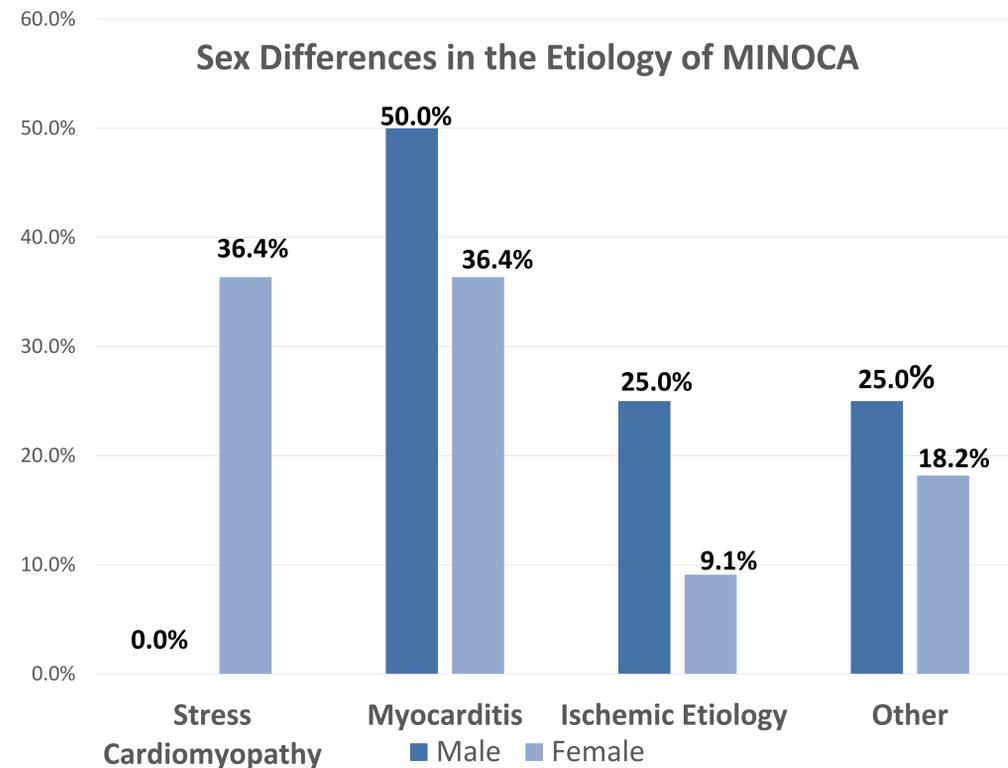


Figure 1. Sex Differences in the etiology of MINOCA

- Of patients meeting inclusion criteria, 8 (42%) were males and 11 (58%) were females
- Compared with males, females were found to have a higher proportion of stress cardiomyopathy (36% vs 0%)
- Men were more likely than females to have myocarditis (50% vs 36%) and an ischemic etiology (25% vs 9%) as the underlying cause of MINOCA (Figure 1)
- Overall, the use of CMR was able to establish a diagnosis in 16 of the 19 patients reviewed (84%)

## DISCUSSION

- MINOCA accounts for up to 15% of patients presenting with an acute myocardial infarction and is more common in women and younger patients; however the true incidence of MINOCA is likely underestimated, and may be as high as 25-50% as seen in more recent reports
- Understanding the distinct mechanism of MINOCA has important management and mortality implications and further study should be sought to determine the etiology with CMR being the most commonly recommended diagnostic modality
- Studies have shown sex differences in mortality outcomes of patients with MINOCA, suggesting differences in underlying mechanisms
- This study demonstrated a higher proportion of women diagnosed with stress cardiomyopathy, while men were more likely to have myocarditis or an ischemic etiology
- Using CMR as a diagnostic tool in MINOCA led to a final diagnosis in the majority of cases and at a similar rates as prior studies

## CONCLUSIONS

- Our study confirmed sex differences in the pathophysiologic mechanisms of MINOCA as determined by CMR
- CMR is an important diagnostic tool to correctly identify the etiology of MINOCA which can guide further management
- Given the small sample size, larger studies are required to further investigate these differences
- Further study is needed to determine the true incidence of MINOCA and the diagnostic impact of CMR within this population

## DISCLOSURES

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- **Authorship Statement:** All authors had full access to the data and participated in the data collection, design and writing of the poster. Each author has seen and approved the submitted version.