Poster Number: 55

MetroHealth Medical Center

RESEARCH DAY 2023

Abstract Submission Form

Poster Title: **Clinical Outcomes and Gender-Based Differences Among Coronary Artery Vasospasm Patients: 30-day and One-year Outcomes Analysis**

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Location of Laboratory:

Category: **Clinical Research**

Background: Coronary artery vasospasm (CAVS) can complicate as acute myocardial infarction (AMI), ventricular tachycardia/fibrillation (VT/VF), or death. Clinical outcomes and gender difference among these patients are not-well known due to paucity of data. We aim to study clinical outcomes among CAVS patients and identify any gender-related differences.

Methods: CAVS patients aged >18 years were identified from TriNetX, an electronic medical record database. Based on gender, two groups were propensity matched. Outcomes as primary-mortality and secondary-rate of AMI, VT/VF, implantable cardioverter device placement (ICD) and percutaneous coronary intervention (PCI) at 30-days and one year were studied. Kaplan Meier curves and Cox-proportional Hazard ratio were calculated.

Results: Our study included 18,151 CAVS patients with mean age of 65$\pm$12 years, 60% male and 62% Caucasian. 1:1 matching based on age, hypertension, diabetes mellitus, atrial fibrillation, and stroke, extracted 14,336 patients for analysis. At 30-days, there was no difference in mortality (1.2% vs 1.1%, log-rank p=0.8; hazard ratio (HR) = 1.01 [95% confidence interval CI: 0.77, 1.45]), VT/VF (2.2% vs 1.8%, p=0.05; HR = 1.27 [0.99, 1.60]), rate of AMI (13.9% vs 14.1%, p=0.61; HR = 0.96 [0.89, 1.10]), PCI (2.4% vs 2.2%, p=0.4; HR = 1.10 [0.88, 1.38]) among the two groups, however males were more likely to receive ICD (1.3% vs 0.8%, p=0.027; HR = 1.44 [1.04, 1.99]). At one-year, mortality (4.7% vs 4.2%, p=0.16; HR = 1.13 [0.96, 1.34]) and AMI (23.1% vs 24.4%, p=0.14; HR = 0.97 [0.88, 1.02]) were similar in the two groups, however males were more likely to suffer VT/VF (5.6% vs 3.7%, p<0.001; HR = 1.5 [1.28, 1.77]), receive ICD (3.7% vs 2.7%, p=0.002; HR = 1.36 [1.12, 1.67]) and undergo PCI (7.1% vs 5.7%, p=0.003; HR = 1.23 [1.1, 1.42]).

Conclusion: Our study reports no gender-based differences in 30-day and one-year mortality among coronary artery vasospasm patients. At one-year, males are more likely to suffer VT/VF, receive an ICD and undergo PCI. These results provide us an insight about the clinical course of this disease entity, generates hypothesis for future research and identifying that males are at an elevated risk of requiring further interventions.