Sex Differences in Outcomes of Spontaneous Coronary Artery Dissection: Insights from the National Readmission Database.

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Background

•Spontaneous coronary artery dissection (SCAD) is a non-atheromatous and non-traumatic cause of acute coronary syndrome (ACS). Over the past decade, there has been an increased recognition of the disease likely due to the increased physician awareness about the disease as well as the increased use of intra-coronary imaging.

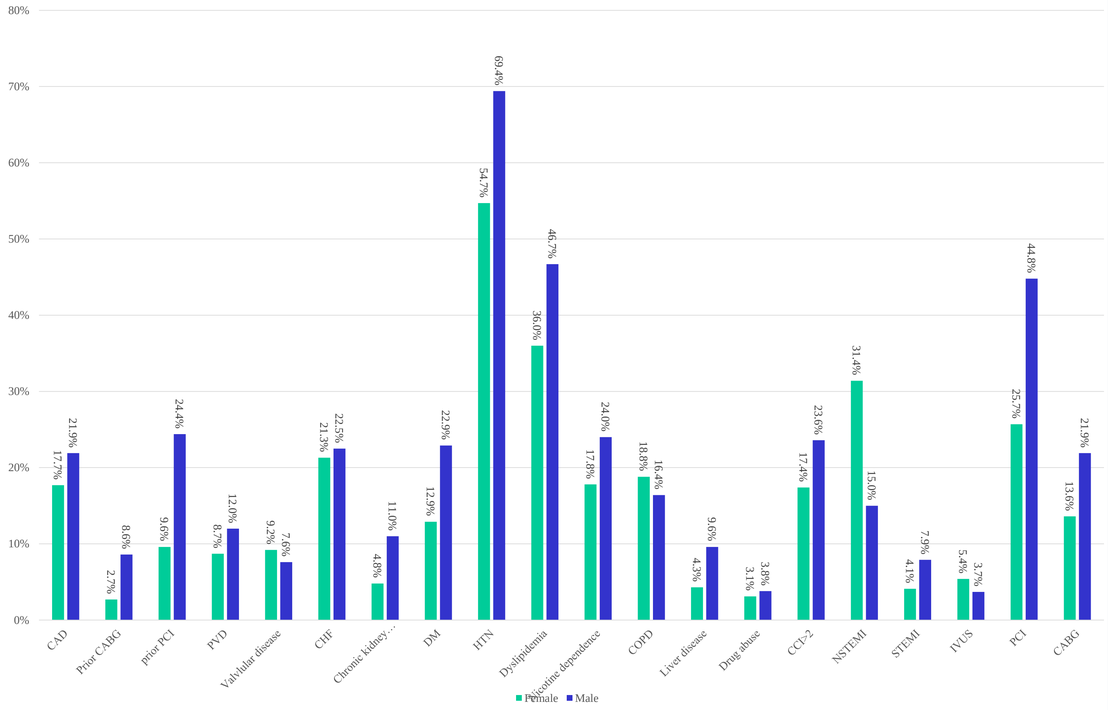
•Though SCAD is well known to occur more in females than males, studies evaluating the differences in clinical outcomes of the disease among both sexes

Purpose

Evaluating the difference in clinical outcomes of SCAD stratified by sex.

Methods

- The Nationwide Readmission Database 2016-2018 was queried for hospitalizations with coronary artery dissection as a primary diagnosis. Observations where iatrogenic dissection was reported were excluded.
- Complex samples multivariable logistic, cox, and linear regression models were used to determine the association between SCAD and in-hospital outcomes (mortality, index length of stay [LOS], hospital costs), and all cause 30-day readmissions in females compared to males.



Bar chart showing baseline comorbidities, presenting acute coronary syndrome diagnosis and intervention received by the entire cohort stratified by sex.

CAD: Coronary artery diesaes; CABG: coronary artery bypass surgery; PVD: peripheral vascular disease; DM: diabetes mellitus(type 1 or 2);CHF: Congestive heart failure; HTN: hypertension; COPD: chronic obstructive pulmonary disease; CCI>2: Charleston comorbidity index greater than 2; STEMI: ST-elevation myocardial infarction; NSTEMI: non-ST elevation myocardial infarction; IVUS: Intravascular ultrasound; PCI: percutaneous coronary angioplasty.

Results

- A total of 1,270 hospitalizations [913 (71.9%) females and 357 (28.1%) males] were included in this analysis.
- Multivariate analysis showed no difference between both sexes regarding all-cause mortality (adjusted odds ratio [aOR]: 2.43; 95% confidence interval [CI] 0.67-8.77; p=0.17), cardiac arrest (aOR: 3.53; 95% CI: 0.88-14.18; p=0.08), AKI (aOR: 0.65; 95% CI: 0.27-1.25; p=0.17), ventricular arrhythmias (aOR: 0.78; 95% CI: 0.29-2.06; p=0.62), LOS (coefficient [β]: 0.23; 95% CI: -0.61 to 1.07; p=0.59), cardiogenic shock (aOR: 1.28; 95% CI: 0.57-2.90; p=0.55), hospital charges (β: -6218; 95% CI: -35092 to 22655; p=0.67), and all-cause 30-day readmissions risk (adjusted hazards ratio [aHR]: 1.03; 95% CI: 0.58-1.82; p=0.92).
- The most common causes of readmission were non-specific chest pain and repeat SCAD.

Conclusions

•Despite SCAD being more common among females, the clinical outcomes and resource utilization seemed to be comparable between both sexes.

•Higher SCAD readmission risk noted in our analysis is consistent with what was previously reported and warrant further studies to risk stratify those at high risk as well as devising optimum management strategy for them.