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**Title**

Presentation and Cardiac Outcomes in Women and Men Reporting to the ED with Chest Pain: Symptoms, ACS, 30 Day Cardiac Events

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# Presentation and Cardiac Outcomes in Women and Men Reporting to the ED with Chest Pain:



## Symptoms, ACS, 30 Day Cardiac Events

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### BACKGROUND

- Chest pain is the most frequent symptom that triggers consideration for acute coronary syndrome (ACS).
- It is **controversial** whether women and men with ACS have the same or different presenting symptoms.
- It is also unclear whether reports of **differences** in ACS presentation in women and men may be related to, sex, age, or type of ACS.

### OBJECTIVES

- 1) To compare the frequency of men and women presenting to the ED who were diagnosed with ACS.
- 2) To determine whether women presenting to the ED and diagnosed with ACS have atypical symptoms, more risk factors, and higher rate of follow-up cardiac events compared to men.

### METHODS

#### Patients:

- Men and women (>21 yrs) presenting to UCD ED with chest pain and symptoms suspicious for ACS.
- Excluded: non-cardiac/trauma-related chest pain.
- Study period: March 2018 - December 2018

#### Assessment:

- **Groups:** Data of pts diagnosed with ACS separated into 4 categories: M NSTEMI, W NSTEMI, M STEMI, W STEMI.
- **Symptoms:** Sx associated with ACS assigned a score:\*
  - Atypical: 0, Intermediate: 0.5, Typical: 1.
- Patients afforded total score categorizing the pain:
  - Non-ischemic (0-1.5), Possible ischemic (2-3.5), Typical ischemic pain (4-5+).
- **Risk Factors:** RF based on the HEART score. Patients categorized into 3 group:\*
  - 0, 1-2, 3+ risk factors.
- **Follow-up:** 30 days for ischemic outcomes.

#### \*ACS Symptom Evaluation:

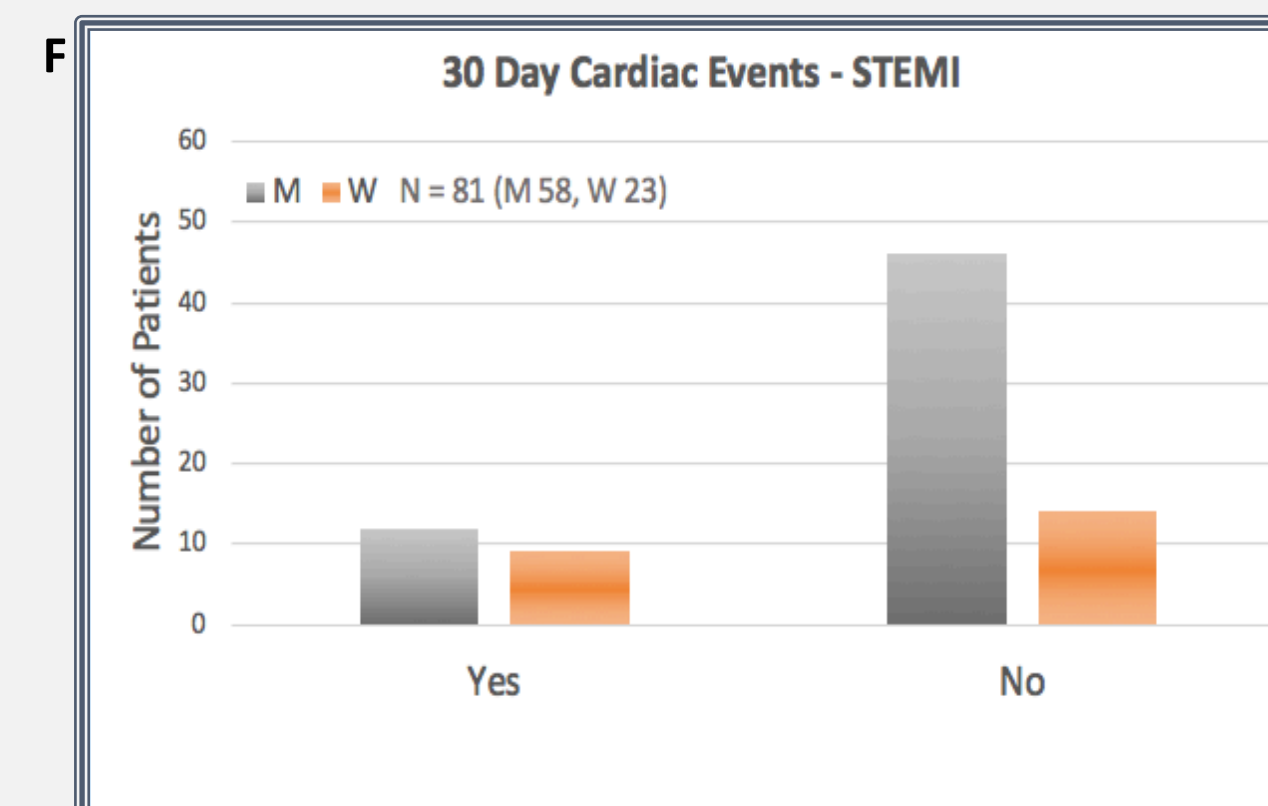
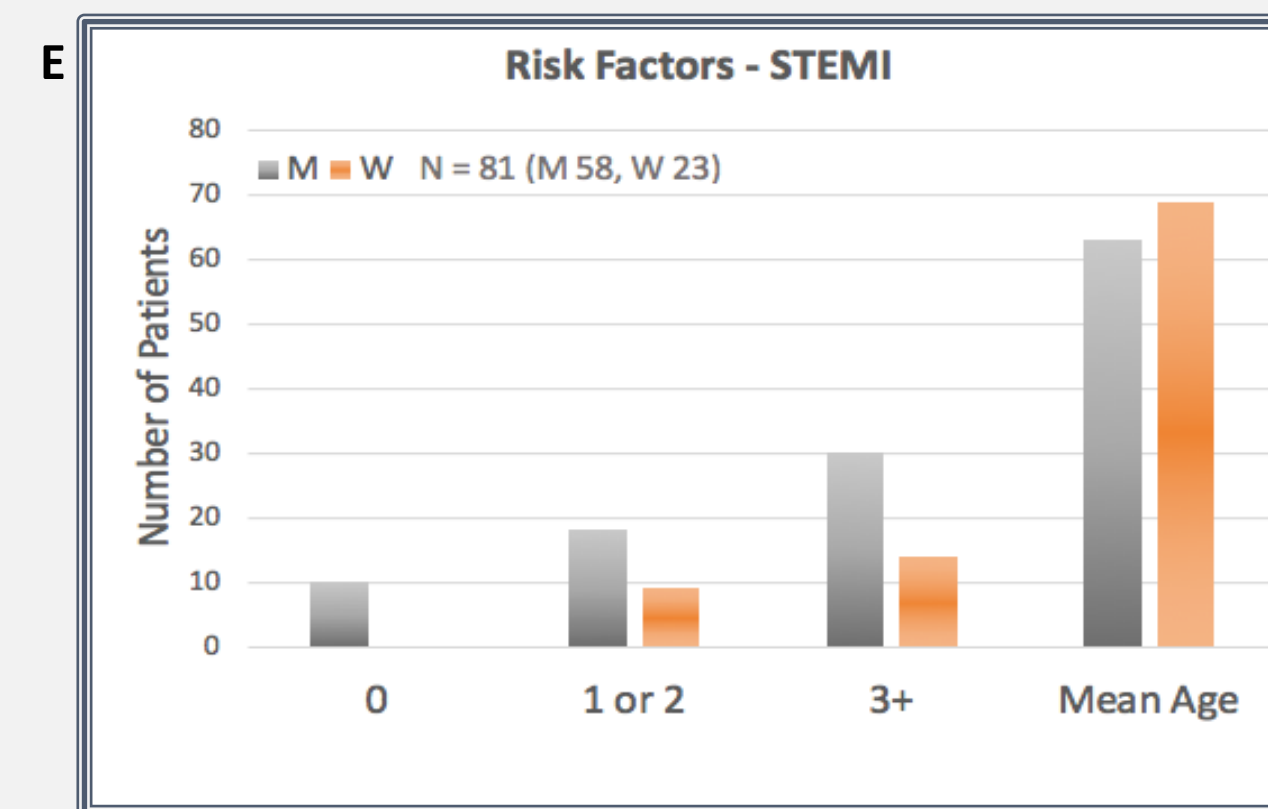
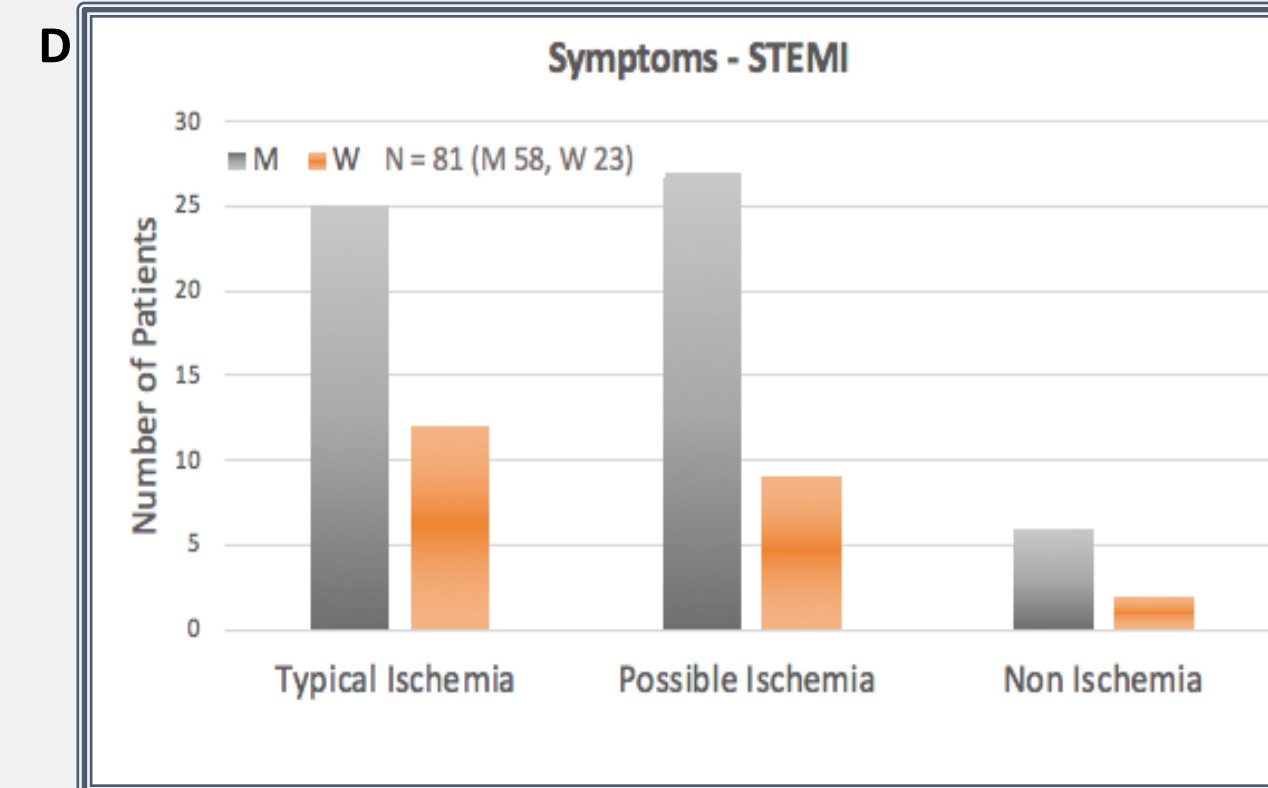
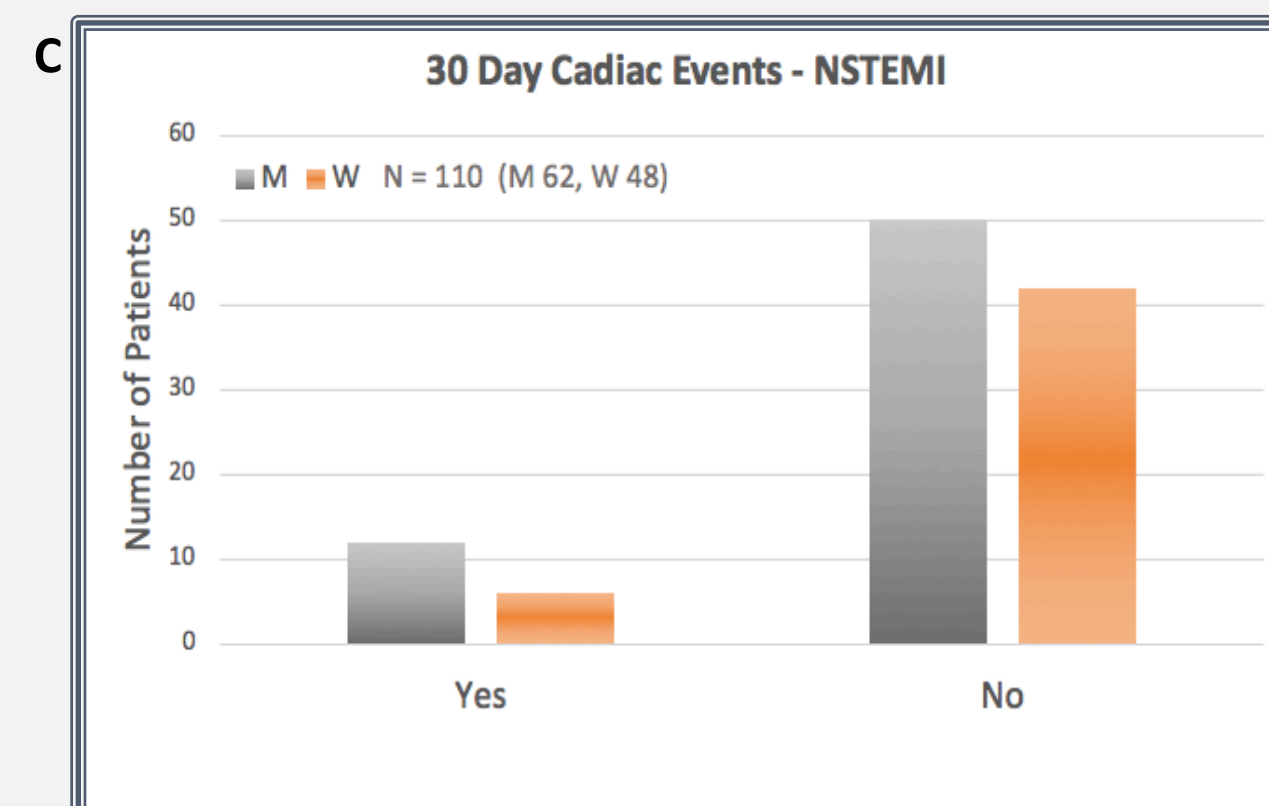
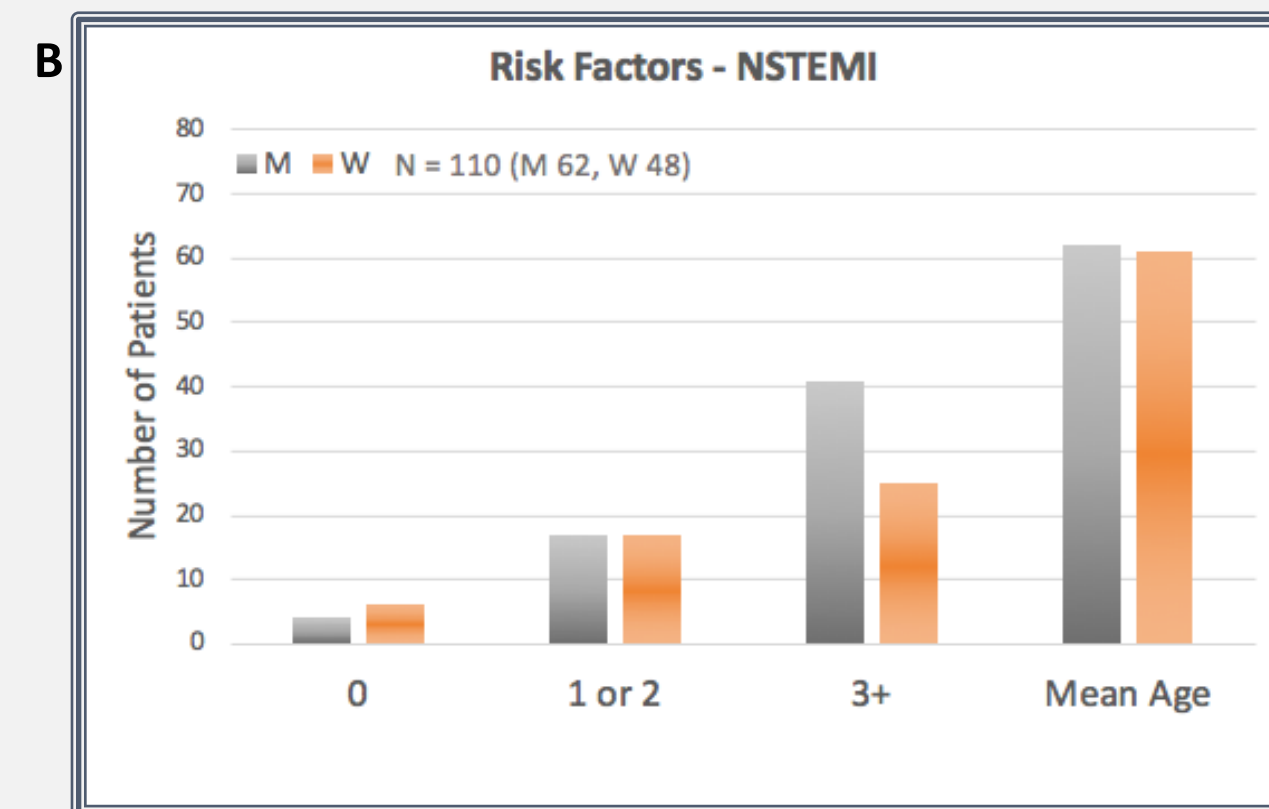
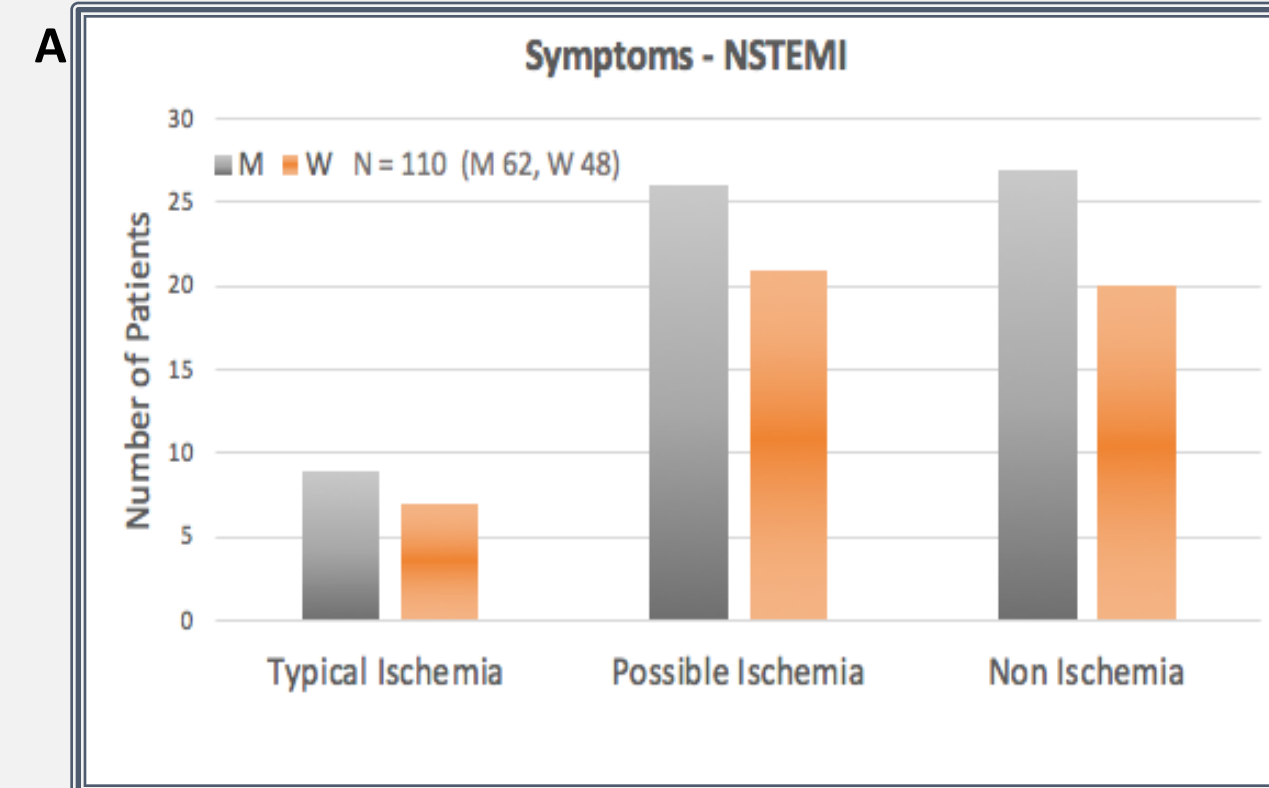
**Typical Symptoms of ACS (1)** - SITE: Left chest, retrosternal, left upper extremity. QUALITY: Pressing, squeezing, heaviness, weight. Pain >20 min, no relief with medication or rest.

**Intermediate Symptoms of ACS (0.5)** - SITE: Right chest, right arm, neck, epigastric. QUALITY: Nausea, sweating, emesis, dizziness, syncope.

**Atypical Symptoms of ACS (0)** - SITE: Abdomen, head, back, eyes/brain, alternating sites. QUALITY: Sharp, sticking, pins and needles, fatigue, weakness. Pain <20 min, relief with medication or rest.

**\*HEART Score Risk Factors:** Age, HTN, HLD, DM, obesity, current smoking history, positive family history of CVD, history of atherosclerotic disease.

### RESULTS



### RESULTS

	N= 1073	M(%) = 552 (51)	W(%) = 521 (49)	P-value
Non ACS(%)		432 (49)	450 (51)	0.01
ACS(%)		120 (63)	71 (37)	0.01
NSTEMI		62 (56)	48 (44)	
STEMI		58 (72)	23 (28)	
<b>Risk Factors(%)</b>				
NSTEMI				0.28
Mean Age		62	61	0.33
0		4 (40)	6 (60)	
1 to 2		17 (50)	17 (50)	
3+		41 (62)	25 (38)	
STEMI				0.98
Mean Age		63	69	0.07
0		10 (100)	0 (0)	
1 to 2		18 (67)	9 (33)	
3+		30 (68)	14 (32)	
<b>Symptoms(%)</b>				
NSTEMI				0.98
Typical Ischemia		9 (56)	7 (44)	
Possible Ischemia		26 (55)	21 (45)	
Non Ischemia		27 (57)	20 (43)	
STEMI				0.88
Typical Ischemia		25 (68)	12 (32)	
Possible Ischemia		27 (75)	9 (25)	
Non Ischemia		6 (75)	2 (25)	
<b>30 Day Cardiac Event(%)</b>				
NSTEMI				0.34
Yes		12 (67)	6 (33)	
No		50 (54)	42 (46)	
STEMI				0.36
Yes		12 (57)	9 (43)	
No		46 (77)	14 (23)	

### LIMITATIONS

- Retrospective, single center study
- Small sample size
- No risk adjustment for demographic, clinical factors
- Symptom data from MD notes
- Follow up limited to 30 days

### CONCLUSIONS

- More men than women presenting to the ED with chest pain were diagnosed with ACS.
- In men and women presenting with ACS, there were no significant differences in symptoms, risk factors, or 30 day cardiac events.
- Larger studies are required to further assess the question of differences between men and women with ACS.
- [Our data on symptoms of STEMI in men and women may differ significantly with a larger study cohort]