Not Just Chest Pain: Presenting Symptoms of Acute Coronary Syndrome by Gender: A Research to Practice Summary

Author: Andi L. Foley, DNP, RN, ACCNS-AG, CEN, Seattle, WA
Section Editor: Andi L. Foley, DNP, RN, ACCNS-AG, CEN

The triage nurse must be vigilant in identifying vague, nuanced symptoms and gender differences for patients presenting to the emergency department with symptoms of acute coronary syndrome (ACS). Identifying a female patient presenting for triage with symptoms of ACS requires additional consideration for mild, vague, or nonclassic symptoms compared with male patients. In this issue of *Journal of Emergency Nursing*, Mirzaei and colleagues[1] contribute evidence to triage practice, with an opportunity to review nursing knowledge on presenting complaints and symptoms likely to be related to ACS.

As an example, consider the 2 following hypothetical cases. Mr J and Ms K arrive at your emergency department at the same time. Mr J has crushing chest pain of 9/10 that is radiating to the left shoulder and began 30 minutes prior to arrival. Ms K has had a heavy "full" chest discomfort of 4/10 for 4 hours; it radiates to the upper back and both arms with progressive worsening of an unusual sense of fatigue, nausea, and indigestion. Both are older than 50 years with unremarkable medical or surgical histories. Your department is busy and you have limited space available to initiate care. The key to high-quality care is to ensure that the standard of care is followed for both patients, which includes prioritizing an electrocardiogram (ECG) as soon as possible with the goal of completion under 10 minutes.[2] Many departments also implement complaint-based nurse-initiated protocol orders.[3]

The triage nurse's early recognition of ACS risk factors is important for subsequent accurate provider diagnosis and appropriate resource utilization, including disposition to inpatient or observation status. In a review of ED diagnoses, nonspecific chest pain was the first listed diagnosis upon ED disposition for an estimated 4.7 million patients in the United States, which was a 25% increase from 2006 chest pain diagnosis statistics.[4] Comparatively, heart disease and coronary atherosclerosis diagnosis decreased by 34% in the same period. Of the 137.8 million ED visits in 2014, 55.5% of all visits were by female patients.[4] Delays in seeking care and receiving care after presenting to the emergency department increase the risk of mortality. This is especially relevant to women, who tend to present with less distressing and less obvious ACS symptom clusters.[5] Thus, accurately recognizing ACS risks and symptoms is an extremely common occurrence in triage nurse practice.

Presenting ACS symptoms typically include chest pain, pressure, or fullness; pain radiating to the arms, neck, jaw, stomach, or back; shortness of breath; nausea; or lightheadedness.[6] The Think Symptoms Know & Go! decision aid for laypeople lists similar areas of pain radiation and further specifies center or left chest pain or pressure, shortness of breath with or without discomfort, a duration of longer than a few minutes, or discomfort that comes and goes.[7]

Mirzaei and colleagues[1] aimed to determine presentation differences based on gender and to describe the quality of presenting symptoms. The authors conducted a secondary analysis of the Think Symptoms multicenter, multistate data, using retrospective information of ACS or non-ACS diagnosis. The presenting symptom was selected from a list of common options and rated from 0 to 10 for quality of distress.[7] Chest pressure, the most common symptom, was reported in 47% of the 1,064 subjects in the study. Chest pressure was a predictor for a final diagnosis of ACS in women.[1] When rule-in and rule-out ACS were analyzed together, women were more likely than men to have higher overall levels of symptom distress (7.3 ± 2.4), although men ultimately diagnosed with ACS were more likely to have presented in higher levels of distress (7.13 ± 2.6).[1] Thus higher levels of symptom distress were a significant predictor of ACS in men but not women.

Andi L. Foley, *Member, Washington State Council of ENA,* is Emergency Services Clinical Nurse Specialist, CHI-Franciscan: St. Francis Hospital, Seattle, WA.

For correspondence, write: Andi L. Foley, DNP, RN, ACCNS-AG, CEN; E-mail: andii42@yahoo.com.

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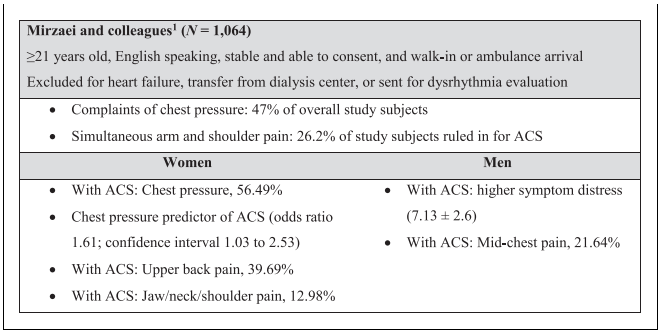
What do these findings mean for triage practice? The common triage practice to take the pain/pressure level for men into account when making acuity determinations is supported by the evidence from Mirzaei and colleagues.[1] However, this evidence indicates the triage nurse should not lower the triage acuity level, deprioritize care, or minimize the risk for ACS in women who present with lower levels of chest pain or pressure, such as in the example of Ms K's report of a 4/10 pressure level.

In the study by Mirzaei and colleagues,[1] almost 40% of women ruled in for ACS reported upper back pain, and almost 13% of women reported jaw, neck, or throat pain.[1] Statistically, however, there were no significant differences in reported symptoms between women who rule in for ACS and women who are ruled out. In practice, this evidence supports the urgency for ECG diagnostic tests for women with vague and nonspecific cardiac-related symptom clusters because no specific symptom was predictive of rule-in ACS. Alternatively, men were most likely (21.6%) to report mid-chest pain. Both men and women ruled in for ACS were more likely (26.2%) to experience simultaneous arm and shoulder pain.[1] See the Figure for a summary of the aforementioned cardiac symptom results. As reported by Mirzaei et al,[1] results are in general alignment with previous studies, but more research is needed.

The practice implications of the Mirzaei research need to be considered in light of several limitations. For example, patients who were unstable at the time of consent request were excluded from the study, which means the findings do not apply to triage decisions made for unstable patients. This study did not distinguish symptom presentation in the rule-in ACS cases by unstable angina, non–ST-elevation myocardial infarction, or ST-elevation myocardial infarction diagnoses, which creates further uncertainty in the triage practice application regarding intervention urgency based on the gender differences in presenting symptom clusters.

Implications for the Triage Nurse

Chest pain or pressure, with or without radiation, are symptoms commonly associated with care to determine if ACS is an appropriate diagnosis. Mirzaei and colleagues[1] reiterate the importance of initiating cardiac evaluation as soon as possible. Clarifying the level of symptom distress with a 0 to 10 scale may assist the triage nurse in prioritizing care for men, because higher distress levels are associated more strongly with ACS diagnosis for men but not necessarily for women. Women presenting with an ACS-related symptom cluster but lower levels of symptom distress should not receive a lower triage priority based on lower symptom distress alone. This serves as a reminder that timely ECG is crucial for women with chest pressure and other ACS-related symptoms, even when these symptoms are mild. The research by Mirzaei and colleagues[1] reiterates that women with chest pressure and men with mid-chest pain should receive heightened triage urgency for initiating cardiac evaluation, as should patients of either gender reporting arm and shoulder pain simultaneously without the presence of trauma.



FIGURE

Summary of cardiac symptom results. ACS, acute coronary syndrome.

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Andi L. Foley, DNP, RN, ACCNS-AG, CEN
Andii42@yahoo.com