



Counterpoint: Readers React to *JUCM* Original Research

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It was with great interest that we read Most Clinicians Are Still Not Comfortable Sending Chest Pain Patients Home with a Very Low Risk of 30-day Major Adverse Cardiac Event (MACE) by Dr. Michael Weinstock, et al in the February 2021 issue of *JUCM*.¹

In this study, the authors surveyed attendants at an emergency medicine conference in 2018 as to their comfort level discharging patients after a negative acute coronary syndrome (ACS) work-up.¹ The survey cohort consisted mostly of United States and Canadian attending physicians, residents, or mid-level providers. Later that year, the American College of Emergency Physicians (ACEP) published national guidelines recommending an acceptable 30-day MACE rate of 1%–2%.² However, survey respondents reported much more conservative views, with almost 50% reporting an acceptable level of missed 30-day MACE of 0.1% or 0.01%. In fact, less than 1/3 of participants met ACEP's recommended 1%–2% miss rate.²

Though the authors address potential changes in responses due to these newer guidelines, we feel the need to address the possible root causes of these very conservative responses.

Firstly, the word “missed” implies an attribution of fault to the treating provider; and what provider would willingly admit to being comfortable “missing” a critical diagnosis? This wording, which brings to mind fear of litigation and a poor patient outcome, may begin to explain the conservative views of the study participants.

Secondly, comfort level does not necessarily correspond to actual provider practice. A provider's comfort level discharging a low-risk chest pain patient is multifactorial, including factors such as poor follow-up and coexisting conditions.³ In fact, the American Heart Association first recommended discharging low-risk patients after a negative ED ACS work-up 8 years prior

to the survey, which makes it difficult to believe that the surveyed providers continue to admit patients at a 0.1% rate of 30-day MACE.⁴

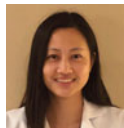
Most importantly, equating missed MACE and missed ACS is somewhat confounding. MACE often includes percutaneous coronary intervention and coronary artery bypass graft surgery, which may be appropriately offered to patients without ACS to treat (for example, stable angina).

Experts have argued that 30-day MACE is in fact a poor marker to determine ED disposition. Weinstock, et al proposed using clinically relevant adverse cardiac events (CRACE) such as rate of in-hospital life-threatening arrhythmia, ST-segment-elevation MI, cardiac or respiratory arrest, or death to describe a more clinically relevant outcome.⁵ The time after which the “missed” CRACE is attributed to the index provider may require adjustment to a more ED-centric endpoint such as the 15-day endpoint recently proposed by Green and Schriger.⁶

The next question posed by this research is: What to do with low-risk patients after a negative ACS work-up? Hospitalization carries known risks such as medical error and delirium.^{7,8} Yet, a benefit to admitting patients after a negative ACS work-up in the ED has yet to be demonstrated. Previously, admission afforded a chance to catch potential “missed” ACS, perform provocative testing, and optimize medical management.

Current data suggest a drastically different picture. With the implementation of the high-sensitivity troponin, the rate of unstable angina has decreased and may potentially be a disease of the past.^{9,11} In fact, 18% to 30% of patients previously classified as having unstable angina would now be defined as NSTEMIs.¹²

One large study on patients hospitalized for possible ACS after two negative troponins, two nonischemic electrocardio-



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grams, and normal vital signs in the ED demonstrated a 0.06% (95% CI, 0.02%-0.14%) rate of inpatient complications (a STEMI, cardiac or respiratory arrest, or death).⁵ Of these four patients, two were noncardiac, and two were possibly iatrogenic.⁵ Additionally, provocative testing in low-risk populations results in no mortality benefit or decrease in ACS rates. Instead, it only serves to increase the rate of cardiac catheterizations, which carries its own rate of complications.^{2,13-16} Optimal medical management theoretically could improve 4-week rates of MACE, but does not require hospitalization to perform. As Weinstock, et al previously posited, “does an increased risk of MACE at 4–6 weeks justify immediate hospitalization or emergent intervention?”⁵

While we are all trying to do the best we can for our patients, it’s important to recognize the limitations and risks of hospitalization in weighing the appropriate disposition. In discussing these risks with patients, it does appear that they seem to be significantly less risk-averse than doctors when engaged with shared medical-decision making.¹⁷⁻¹⁹

The testing and data for diagnosing and positioning possible ACS patients has drastically changed in the past 10 years. Currently, the best available evidence supports discharging low-risk patients after a negative ACS work-up and a 4-week risk of MACE at 1%–2%.²⁰⁻²³ Additionally, multiple national and international organizations have recommended discharge of these patients, and there is no demonstrated benefit to admission.^{2,24}

All that’s left is to get our fellow physicians and providers comfortable with these new recommendations. ■

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