

## Abstract

# Frequency and Outcomes of Transient Myocardial Ischemia in Critically Ill Adults Admitted for Noncardiac Conditions

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## Background

Critically ill adults admitted for noncardiac conditions are at risk for acute myocardial ischemia.

## Objectives

To detect myocardial ischemia and injury in patients admitted for noncardiac conditions and to examine the relationship of myocardial ischemia, injury, and acuity to cardiac events.

## Methods

Transient myocardial ischemia, acuity, elevations in serum troponin I, and in-hospital cardiac events were examined in 76 consecutive patients. Transient myocardial ischemia, determined by using continuous electrocardiography, was defined as a 1-mm (0.1-mV) change in ST level from baseline to event in 1 or more leads lasting 1 or more minutes. Acuity was determined by scores on Acute Physiology and Chronic Health Evaluation II.

## Results

A total of 37 ischemic events were detected in 8 patients (10.5%); 32 (86%) were ST-segment depressions, and 35 (96%) were silent. Twelve patients (15.8%) had elevated levels of troponin I. Transient myocardial ischemia, elevated troponin I levels, and advanced age were significant predictors of cardiac complications ( $R^2 = 0.387$ ,  $F = 15.2$ ,  $P < .001$ ). Acuity correlated only modestly with increased length of stay in the intensive care unit ( $r = 0.26$ ,  $P = .02$ ) and elevated troponin I levels ( $r = 0.25$ ,  $P = .03$ ). Patients with transient myocardial ischemia had significantly higher rates of elevations in troponin I ( $P < .001$ ) and cardiac events ( $P < .001$ ) than did patients without.

## Conclusions

Transient myocardial ischemia and advanced age are predictors of cardiac events and may indicate patients at risk for cardiac events.

**Full article is available on the American Journal of Critical Care website:**

<http://ajcc.aacnjournals.org/content/12/6/508.long>

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