

The New Definition of Myocardial Infarction—Can We Use It?

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Summary

Background: A joint committee of the European Society of Cardiology and the American College of Cardiology (ESC/ACC) recently redefined myocardial infarction.

Hypothesis: The objective of this study was to examine the outcome of diagnoses from more than 500 patients admitted to a university hospital coronary care unit (CCU), when the ESC/ACC committee cut-off levels were compared with the Swedish diagnostic criteria for acute myocardial infarction (MI), comparable with everyday practice in most countries.

Methods: Creatine kinase-MB, troponin I, and troponin T were measured in 525 patients admitted consecutively to the CCU, Huddinge University Hospital, with possible myocardial ischemia lasting < 12 h before arrival.

Results: The ESC/ACC definition of MI increased the number of MIs by 3–32% compared with the number achieved when Swedish diagnostic criteria for acute MI were used. A significant number of patients with elevated cardiac enzymes presented with acute heart failure, tachycardia, pulmonary embolism, and sepsis as initial symptom.

Conclusions: In this study of more than 500 patients with possible myocardial ischemia admitted consecutively to the CCU at a university hospital, the ESC/ACC definition of MI increased the number of MIs by 3–32% compared with the number achieved when Swedish diagnostic criteria for acute MI were used. A majority of the patients identified with ESC/ACC cut-off levels presented with myocardial ischemia as the primary symptom, whereas many of the other patients had acute heart failure and tachycardia as initial symptom. It is unclear whether patients in this latter group should be labelled as having MI; there are no clinical studies providing guidance in this situation.

Key words: myocardial infarction, troponin, definition, creatine kinase-MB

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