



GRADUATE SCHOOL OF BIOMEDICAL SCIENCES

MASTERS IN CLINICAL INVESTIGATION PROGRAM

M.S.C.I. THESIS DEFENSE

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MENTOR: Robert Goldberg, PhD
Monday, May 6, 2019 9:00 a.m.
AS9-2072

Changing trends in the landscape of patients hospitalized with acute myocardial infarction (2001 - 2011): The Worcester Heart Attack Study

During the past 50 years, novel diagnostic tools, interventional approaches, and population-wide changes in the major coronary risk factors have occurred. However, few studies, especially from the more generalizable perspective of a population-based investigation, have examined the impact of evolving treatment practices and lifestyle changes on patient demographic characteristics, clinical profile, and the short-term outcomes of patients hospitalized for acute myocardial infarction (AMI). We examined decade long trends (2001 to 2011) in patient's demographic and clinical characteristics, treatment practices, and hospital outcomes of residents of the Worcester metropolitan area hospitalized with a validated initial AMI (n = 3,730) at all 11 greater Worcester hospitals during 2001, 2003, 2005, 2007, 2009, and 2011. Patients hospitalized with a first AMI during the most recent study years were significantly younger, had lower serum troponin levels at the time of their AMI, and experienced a shorter average length of hospital stay than patients hospitalized during the earliest study years. Hospitalized patients were more likely to received evidence-based management practices during the period under investigation. Multivariable-adjusted models showed a meaningful decline over time in the hospital death rate, and a significant reduction in the proportion of patients who developed atrial fibrillation, heart failure, and ventricular fibrillation. These results highlight the changing nature of patients hospitalized with an incident AMI, and reinforce the need for surveillance of AMI at the community level.

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