

How Well Do Paramedics Recognize And Treat Patients With Acute MI?

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Introduction

- Most patients who call 911 for chest pain are not having an acute myocardial infarction (AMI), but accurate assessment and treatment are important for those who are. EMS protocols may require paramedics to judge which patients are having chest pain that is "suspicious for cardiac etiology" before initiating treatment.

Objective

- The study objective was to determine the percentage of patients with AMI who were assessed and treated as such by paramedics, with oxygen, nitrates, and aspirin.

Methods

- We constructed a computerized database of all patients during a 6 month period who met the following criteria:
 - chief complaint of chest pain
 - transported by EMS to one of 3 hospitals
 - age 14 years or older.
- The EMS database was merged with a hospital database with discharge diagnoses and ICD-9 codes.
- 3 subgroups were defined as:
 - AMI
 - Other cardiac diagnoses
 - Non-cardiac
- Descriptive statistics were calculated. Means were compared using T-tests, and proportions were compared using Chi-squared tests.

Results

- 1173 met all inclusion criteria
 - 79 (7%) patients had AMI by ICD-9 codes
 - 153 (13%) had other cardiac diagnoses (angina, dysrhythmia, etc)
 - 941 (80%) had non-cardiac diagnoses.
- Compared to the non-cardiac group, patients with AMI were:
 - older (68 vs 54, $p < .0001$)
 - more likely to receive
 - oxygen (87% vs 75%, $p < .01$)
 - aspirin (39% vs 18%, $p < .0001$)
 - nitrates (67% vs 31%, $p < .0001$)
 - or all 3 treatments (33% vs 16%, $p < .0001$)

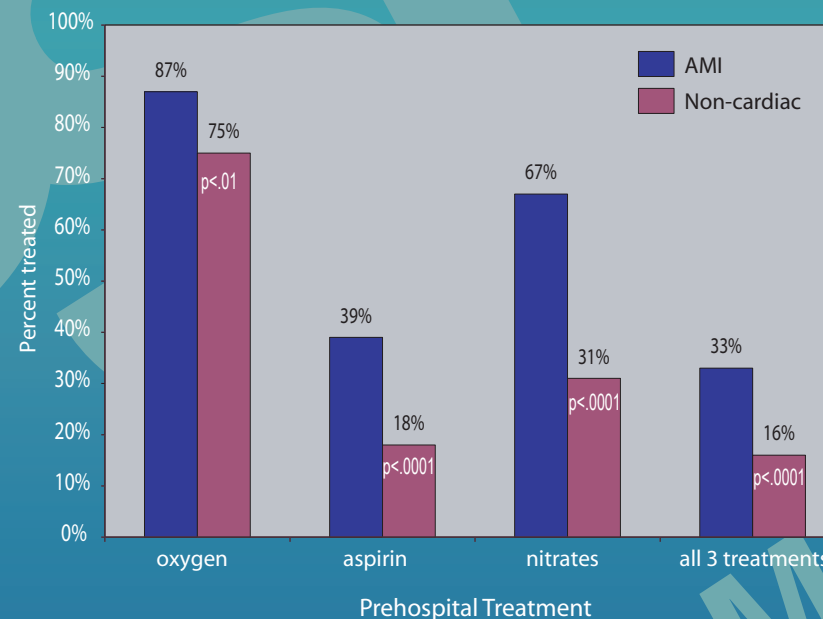
Limitations

- Retrospective design
- Potential missing data or inaccurate diagnoses
- Effect on patient outcomes is unknown
- Aspirin may have been omitted intentionally if already taken at home

Conclusions

- Paramedics were much more likely to treat patients ultimately diagnosed with AMI with oxygen, nitrates, and aspirin. However, the percentage of AMI patients who received such treatment was surprisingly low, and should be taken into account for training and protocol design.

AMI vs Non-Cardiac Chest Pain



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