

Optimizing the early treatment of a threatening myocardial infarction

Akademisk avhandling

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Av

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Leg.läkare

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This thesis is based on the following studies:

- I. Ravn-Fischer, A. Caidahl, K. Hartford, M. Karlsson, T. Kihlgren, S. Perers, E. Rashed, H. Johanson, P. Herlitz, J. Community-based gender perspective of triage and treatment in suspected myocardial infarction. *Int J Cardiol* 2012 Apr 19;156(2):139-43. (E-pub 2010 Nov 27)
- II. Ravn-Fischer, A. Karlsson, T. Santos, M. Bergman, B. Johanson, P. Herlitz, J. Chain of care in chest pain – Differences between three hospitals in an urban area. *Int J Cardiol* (E-pub 2011 Nov 24)
- III. Ravn-Fischer, A. Karlsson, T. Santos, M. Bergman, B. Herlitz, J. Johanson, P. Inequalities in the early treatment of women and men with acute chest pain? *Am J Emerg Med* 2012 Oct;30(8):1515-21 (E-pub 2012 Mar 3)
- IV. Santos, M. Ravn-Fischer, A. Herlitz, J. Bergman, B. Is the early treatment of acute chest pain provided sooner to patients who speak the national language? Submitted
- V. Ravn-Fischer, A. Karlsson, T. Johanson, P. Herlitz, J. Prehospital ECG signs of acute coronary occlusion are associated with reduced one-year mortality. Submitted



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Abstract

Background: Acute myocardial infarction is the single most common cause of death for both women and men in Sweden. Through fast and efficient chest pain care we know that we can minimize myocardial damage and improve outcome and prognosis.

Aims: To investigate the early chain of care in patients with a threatening myocardial infarction in order to identify possibilities for improvement.

Results and Conclusions: In five papers we describe chest pain care in our community with regard to the gender-, the foreign-, the age and the co-morbidity perspective. We have also investigated predictors of direct admittance to a coronary care unit and predictors of mortality.

Regarding the gender perspective, women with chest pain were older as compared to men. Women were not admitted to a coronary care unit as often as men and there were longer delays to the right level of care and to performance of coronary angiography in the female group. Among women admitted to a coronary care unit, with a final diagnosis of an acute coronary syndrome, gender differences were minor or even non-existent.

In non-Swedish speaking chest pain patients we found a higher prevalence of diabetes and previous stroke. Poorer language proficiency was associated with longer delay time from arrival in hospital to admission to a coronary care unit or catheterization laboratory. This prolonged delay may be due to communication difficulties and there could be room for improvements by increased use of interpreters.

The strongest predictor for admittance to a coronary care unit was a prehospital ECG suggesting acute occlusion of a coronary vessel. Interestingly, these patients had lower 1-year mortality. The future challenge is to improve early cardiac care for the large infarction-group with poor prognosis but without such alarming ECG signs.

In the municipality of Gothenburg there are three hospitals offering emergency care for chest pain patients. In our studies we found differences between these hospitals especially with regard to delays to coronary angiography in presumed acute coronary syndrome patients. Our data highlight logistical problems that our health care system has to deal with in order to improve chest pain care and to follow current guidelines.

Keywords: chest pain, acute coronary syndrome, coronary care unit, gender, non-Swedish-speaking

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