

Linköping University Medical Dissertation No. 1144

**Management and outcome
in
Non ST-Elevation Acute Coronary Syndromes**

**Similarities and differences
Between women and men**

Joakim Alfredsson

Akademisk avhandling som för avläggande av medicine doktorexamen kommer att offentligas försvaras i Elsa Brändströmsalen, Universitetssjukhuset i Linköping den 11 september 2009, kl 13.00.

Fakultetsopponent
Professor David Erlinge,
Universitetssjukhuset i Lund



Linköping University
FACULTY OF HEALTH SCIENCES

Division of Cardiology
Department of Medical and Health Sciences
Linköping University
Sweden

ISBN: 978-91-7393-565-4

ISSN 0345-0082

Abstract

Background

Non ST-elevation Acute Coronary Syndromes are the most frequent manifestations of acute ischemic heart disease. Gender differences in treatment intensity, including differences in level of care, have been reported. Also differences in benefit from certain treatments, especially invasive treatment, have been discussed. Finally, difference in outcome between men and women, have been proposed. Results have been inconsistent, partly depending on if and how adjustment for differences in background characteristics has been made. The aims of the studies in this thesis were to assess differences between the genders in baseline characteristics, level of care, medical treatment and non-invasive and invasive cardiac procedures. The aims were also to determine gender differences in short and long-term mortality, including impact of level of care, and to determine differences between the genders in benefit from an invasive strategy, with special reference to benefit in women.

Method

We used prospectively collected data from the RIKS-HIA registry in two studies (Paper I and IV). In one study we merged data from patients admitted to general wards in the south-east region of Sweden (The AKUT registry), with data from patients admitted to CCU's (RIKS-HIA) at participating hospitals during the same time (Paper II). We also randomly assigned women to a routine invasive or a selective invasive treatment strategy, and performed a meta-analysis, to determine gender differences in benefit from a routine invasive strategy (Paper III).

Results

Women were older than men and more likely to have a history of diabetes and hypertension, while men were more likely to have a history of myocardial infarction and revascularisation. Women were also more likely to have normal coronary arteries on the angiogram. After adjustment for baseline differences there were only minor, and directionally inconsistent, differences between women and men in pharmacological treatment. Men were more often referred for coronary angiography, even after adjustment. While CABG-rate was lower in women, after adjustment PCI-rate was similar or even higher compared to men. After adjustment for differences in age, longterm outcome was better in women. In our small but randomised trial there was no benefit from a routine invasive strategy in women. A meta-analysis indicated interaction between gender and treatment strategy, with lack of benefit in women, in contrast to in men. However, our large observational study indicated no gender difference with an invasive strategy. Moreover, benefit was similar in women and men with invasive treatment.

Conclusion

There are substantial differences between women and men in baseline characteristics that affect management and outcome more than gender per se. After adjustment women have better long-term outcome than men. There appear to be a difference in benefit from a routine invasive strategy between the genders, with less benefit in women, but in routine clinical management there was no difference between women and men managed with an invasive strategy.