MANIFESTATIONS AND SURVIVAL IN CORONARY HEART DISEASE

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Abstract:

Aim: To investigate how risk factors predict manifestations in coronary heart disease (CHD), and trends in short-term and long-term survival including trends in out-of-hospital mortality.

Populations and methods: In the first study 7388 men aged 47 to 55 and free of previous acute myocardial infarction (AMI) or stroke were investigated during 28 years' follow-up. In the second and third study we created a record linked database from the Swedish hospital discharge and death registries documenting all cases aged 35 to 84 years who had either been hospitalized for a first AMI or who had died from CHD outside hospital without a prior hospitalization for AMI. In the last study data were derived from 143, 457 consecutive patients aged 25 to 105 years from the Swedish Register of Cardiac Intensive Care (RIKS-HIA) with a first episode of either AMI or unstable angina (UAP).

Results: Serum cholesterol was a stronger predictor (OR 5.21) for future coronary artery bypass grafting (CABG) than for AMI. Smoking was a weaker risk factor for CABG than for AMI with no discernible increase in risk except in very heavy smokers (OR 2.19). Both short- and long-term case fatality after hospitalization for AMI decreased from 1987 to 1998, more in younger than in older patients. 28-day case fatality was reduced by half in male and female patients <55 years. This reduction was maintained throughout the first five years. The reduction in 28-day case fatality decreased with age to about one third among men and women aged 75 to 84 years. Hospital mortality decreased roughly by half over the period, whereas the reduction in out-of-hospital deaths was about one fourth. The great majority of all fatal first events in CHD occur outside hospital, and this proportion is increasing, particularly in younger CHD victims. Among patients with a first acute coronary syndrome event, male sex, slightly older age, as well as smoking, diabetes, and peripheral arterial disease are major determinants for presenting with AMI, rather than UAP. Differences with respect to smoking, diabetes, and peripheral arterial disease were more pronounced for women than for men.

Conclusions: There are decreasing trends in case fatality among patients in all ages with coronary heart disease admitted to hospital. Still, the absolute majority of deaths occur out-of-hospital. Different manifestations of coronary disease have different risk factor patterns, suggesting that secular changes in risk factor pattern could potentially influence the clinical expression of the disease.

Keywords: coronary heart disease, acute coronary syndrome, coronary-bypass grafting, mortality, case fatality, survival, manifestation, predictors, risk factors, trends, cholesterol

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This thesis is based on the following papers:

I. Dudas KA, Wilhelmsen L, Rosengren A.
Predictors of coronary by-pass grafting in a population of middle aged men.
Eur J Cardiovasc Prev Rehabil. 2007 Feb;14(1):122-7

II. Dudas K, Lappas G, Rosengren A.
Trends in short- and long-term prognosis after hospital admission for acute myocardial infarction 1987 to 2003 in 264 575 Swedish patients.
Submitted

III. Dudas K, Lappas G, Rosengren A.
Trends in in-hospital and out-of-hospital deaths in coronary heart disease 1987 to 2003 in Sweden.
In manuscript

IV. Dudas K, Björck L, Stenestrand U, Wallentin L, Rosengren A.
Differences between acute myocardial infarction and unstable angina - findings from the Register of Information and Knowledge about Swedish Heart Intensive Care Admissions (RIKS-HIA).
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