Acute coronary syndrome: incidence and prognosis

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ABSTRACT

The study was carried out at Department of Internal Medicine and Cardiology, Aarhus Sygehus University Hospital.

Aims: We aimed 1) to estimate the incidence of the acute coronary syndrome (ACS) including unstable angina (UAP), acute myocardial infarction (MI) and sudden cardiac death (SCD), and 2) to identify predictors of a) incident ACS, based on sociodemographic indicators in the cohort, and b) mortality among patients admitted with possible or established ACS, and c) attendance in cardiac rehabilitation (CR), and 3) to describe the one year prognosis as concerns readmissions, percutaneous coronary interventions (PCI) and coronary artery bypass grafting (CABG).

Methods: From a cohort of 138,290 residents of the Municipality of Aarhus, Denmark, aged 30-69 years, we prospectively identified 1576 consecutive patients during 2000-2002, in whom possible ACS was considered. Incident ACS was found in 457 patients who survived till admission and in 189 SCD victims. Age, sex, social indicators and mortality data were obtained from Danish Population Registers and biomedical data were obtained from patient interviews, charts and clinical one-year follow-up.

Results: The crude incidence rate of ACS including SCD was 234 per 100,000 person years. UAP accounted for 17%, MI for 54% and SCD for 29% of ACS-cases. The incidence of MI + SCD was 24% higher than expected from National Hospital Register data. Age, single living and early retirement were associated with higher incidence of ACS. Of 457 incident ACS patients, 10% died within one year, readmissions claimed 19%, and PCI and CABG were performed in 41% and 13%, respectively. Positive predictors of mortality were single living, diabetes mellitus, Q-wave, tachycardia and right bundle branch block. Negative predictors were chest pain and ST-elevation. The attendance-rate, in 200 MI patients who were offered to attend CR, was 3/4. Positive predictor of CR-attendance was chest pain whereas negative predictors were single living and low gross income.

Conclusions: Morbidity and mortality is still high in these young unselected ACS patients (median age 60 years, 73% men). Single living and atypical clinical presentations are associated with higher mortality and with lack of referral for CR and PCI. The incidence of ACS needs to be carefully and continuously monitored to determine trends in disease occurrence and to allow rational allocation of resources to diagnosis, prevention and treatment of coronary artery disease.