Acute coronary syndrome in the elderly: the Malaysian National Cardiovascular Disease Database-Acute Coronary Syndrome registry

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INTRODUCTION The elderly are often underrepresented in clinical trials for acute coronary syndrome (ACS), and cardiologists commonly face management dilemmas in the choice of treatment for this group of patients, particularly concerning the use of invasive revascularisation. This study analysed the characteristics of hospitalised elderly patients with ACS, and compared the outcomes of treatments.

METHODS From 29 December 2005 to 26 April 2010, 13,545 patients were admitted for ACS in 16 hospitals across Malaysia. These patients were divided into two groups - elderly (\geq 65 years) and non-elderly (< 65 years). The clinical characteristics, treatment received (invasive or non-invasive) and outcomes (in-hospital and 30-day all-cause mortality) of the two groups were compared. The elderly patients were then grouped according to the type of treatment received, and the outcomes of the two subgroups were compared.

RESULTS Elderly patients had a higher cardiovascular risk burden and a higher incidence of comorbidities. They were less likely to receive urgent revascularisation for acute ST-segment elevation myocardial infarction (elderly: 73.9\% vs. non-elderly: 81.4\%) and had longer door-to-needle time (elderly: 60 minutes vs. non-elderly: 50 minutes, p = 0.004). The rate of cardiac catheterisation was significantly lower in the elderly group across all ACS strata. Elderly patients had poorer outcomes than non-elderly patients, but those who received invasive treatment appeared to have better outcomes than those who received non-invasive treatment.

CONCLUSION Elderly patients with ACS tend to be undertreated, both invasively and pharmaceutically. Invasive treatment seems to yield better outcomes for this group of patients.

Keywords: Acute coronary syndrome, cardiovascular, elderly mortality, percutaneous coronary intervention

INTRODUCTION

According to the World Health Organization, ischaemic heart disease is the leading cause of death globally.\textsuperscript{11} It is also a major cause of morbidity and mortality among the elderly.\textsuperscript{2,3} With the increasing standard of general healthcare, the elderly population is expected to make up a large proportion of all acute coronary syndrome (ACS) patients in the future.

Age is an important determinant of outcome in ACS.\textsuperscript{3,4} The elderly represents a subgroup of high-risk ACS patients due to their advanced age and the fact that they commonly have other comorbidities. Unfortunately, the elderly are also often sidelined and underrepresented in many clinical trials because of the aforementioned factors.\textsuperscript{5} Due to the frailty and multiple comorbidities of elderly patients, physicians often face the dilemma of whether to perform aggressive invasive procedures on these patients. On the one hand, the use of aggressive invasive procedures may result in more harm being inflicted, but on the other hand, the elderly may benefit the most from aggressive treatment.

There is a paucity of data on elderly patients with ACS in Malaysia, where the rate of invasive coronary intervention is often limited by insufficient funding. Therefore, the present study aimed to examine the treatment attitude and clinical outcome of elderly patients with ACS by analysing data from the Malaysian National Cardiovascular Disease Database-Acute Coronary Syndrome (NCVD-ACS) registry.

METHODS

Anonymised patient data was obtained from the NCVD-ACS registry. The NCVD was sponsored by the Ministry of Health, Malaysia, and co-sponsored by the National Heart Association of Malaysia (NHAM).\textsuperscript{7} The data of patients who were diagnosed with ACS (i.e. unstable angina, ST segment elevation myocardial infarction [STEMI] and non-ST segment elevation myocardial infarction [NSTEMI]) in 16 participating hospitals across Malaysia was captured in the NCVD-ACS registry. Using a standardised case report form, data was collected from the time the patient with ACS was admitted to the hospital till discharge from hospital, between 29 December 2005 and 26 April 2010. A unique national identification number was assigned to each patient to avoid duplication. Follow-up was done 30 days after hospital discharge via phone call or when the patient came to the clinic.