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ORIGINAL ARTICLE

Predictors of 1-year outcomes in the Taiwan Acute Coronary Syndrome Full Spectrum Registry



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KEYWORDS

acute coronary syndrome;
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Background/Purpose: Evidence-based guidelines have been formulated for optimal management of acute coronary syndrome (ACS). The Taiwan ACS Full Spectrum Registry aimed to evaluate the ACS management and identify the predictors of clinical outcomes of death/myocardial infarction/stroke 1 year post hospital discharge.

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clopidogrel;
survival rates;
Taiwan

Methods: Three thousand and eighty confirmed ACS patients enrolled in this registry were followed up for 1 year at 3-month intervals. Patient data on medical interventions as well as clinical events were recorded and analyzed by descriptive statistics.

Results: One-year mortality among patients with ST-segment elevation myocardial infarction (STEMI), non-STEMI (NSTEMI) and unstable angina was 6.1%, 10.1%, and 6.2%, respectively. Use of secondary preventive therapies was suboptimal throughout the follow-up phase, especially dual antiplatelet therapy, which fell from 74.8% patients at discharge to 24.9% patients at 1-year follow-up. The odds of an adverse incidence of death/myocardial infarction/stroke 1 year after discharge was significantly reduced in patients receiving aspirin and clopidogrel for ≥ 9 months and was consequently higher in patients in whom dual antiplatelet therapy was discontinued or prescribed for < 9 months. Chronic renal failure, in-hospital bleeding, a diagnosis of NSTEMI, and antiplatelet therapy discontinuation had a negative association with 1-year outcomes, whereas the use of drug-eluting stents and antiplatelet agents, clopidogrel and aspirin, were predictors of positive outcomes.

Conclusion: There is a significant deviation from evidence-based guidelines in ACS management in Taiwan as reported in other countries. Policy adherence, especially with regard to dual antiplatelet therapy may hold the key to long-term favorable outcomes and improved survival rates in ACS patients in Taiwan.

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Introduction

Evidence-based guidelines for the management of acute coronary syndrome (ACS) have been established by the American College of Cardiology Foundation (ACCF)/American Heart Association (AHA)^{1,2} and the European Society of Cardiology³ with recent updates regarding the use of particular antiplatelet and antithrombotic therapies.^{4,5,6,7,8,9} However, observations from various large studies such as Can Rapid Risk Stratification of Unstable Angina Patients Suppress Adverse Outcomes With Early Implementation of the ACC/AHA Guidelines (CRUSADE),¹⁰ Global Registry of Acute Coronary Events (GRACE),^{11,13} Acute Coronary Syndrome Prospective Audit (ACACIA),¹⁴ Clinical Pathways for Acute Coronary Syndromes in China (CPACS)¹⁵ and the Canadian Acute Coronary Syndromes (CACCS) registry¹⁶ have indicated that the use of these guidelines is suboptimal. The Taiwan Acute Coronary Syndrome Descriptive Registry (T-ACCORD),¹⁷ a registry of unstable angina (UA) and non-ST-elevation myocardial infarction (NSTEMI) cases, has shown that a similar lag exists in ACS management in Taiwan as well.

To meet the need for a nationwide Taiwanese registry that covers the full spectrum of ACS and assesses current clinical practices/outcomes, this study was undertaken. The Taiwan ACS Full Spectrum Registry was a prospective study carried out at various medical centers and regional hospitals in Taiwan in patients presenting with ACS symptoms. The main goal of the registry was to identify whether the current practices in ACS management throughout Taiwan were in concordance with established guidelines. The baseline characteristics and in-hospital outcomes published previously substantiated the discord between clinical guidelines and real-world practice especially with regard to invasive management and secondary preventive therapy.¹⁸ The objective of this study is to present the predictors of outcomes in Taiwanese ACS patients up to 1 year after hospitalization.

Methods

Study patients

Patients included in this study had been enrolled in the ACS Full Spectrum Registry reported previously.¹⁸ Briefly, between October 2008 and January 2010, 3183 consecutively eligible patients aged ≥ 20 years, presenting with symptoms of ACS and admitted within 24 hours at any of the 39 participating study sites in Taiwan, were recruited for the study. Following discharge, patients were followed up for a period of 1 year at 3-month intervals and data were collected on prescribed medical interventions as well as clinical events such as myocardial infarction (MI), stroke, rehospitalization, and death.

All patients had to provide a signed consent and the study protocol was approved by the institutional ethics committee at each site. The study was carried out in accordance with local regulatory guidelines as well as international guidelines for Good Epidemiological Practice.¹⁹

Statistical analysis

Sample size was calculated taking the following into consideration: the known incidence rate of 0.0025, a power of 80% to detect an additional incidence of 0.003, and an anticipated dropout rate of 20%.

Descriptive statistics was used to evaluate study parameters—mean, median and standard deviation for continuous data and counts and percentages for categorical data. Cox proportional hazards modeling was used to analyze the impact of clinical and demographic covariates on survival and “event-free survival”. Propensity score matching was used to adjust for nonrandomized comparisons when appropriate. All statistical analyses were carried out with a two-sided α -level of < 0.05 . Patients who were “lost to follow-up” were censored at the time of last contact and assumed to be alive and “event-free”. All

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