Abstract: P1954

Prognostic value of the CHADS2 score for adverse cardiovascular events in acute myocardial infarction patients without atrial fibrillation: J-MINUET Substudy

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Topic(s):
Acute Coronary Syndromes – Epidemiology, Prognosis, Outcome

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BACKGROUND: The CHADS2 score has mainly been used to predict the likelihood of cerebrovascular accidents in patients with atrial fibrillation. However, increasing attention is being paid to this scoring system for risk stratification of patients with coronary artery disease. We investigated the value of the CHADS2 score in predicting cardiovascular events in Japanese acute myocardial infarction (AMI) patients without atrial fibrillation.

METHODS: To elucidate the prognostic value of CHADS2 score in AMI patients, we analysed data of the Japanese registry of acute Myocardial Infarction diagnosed by Universal Definition (J-MINUET). This was a prospective and multicenter registry consisting of 3,283 AMI patients, who were hospitalized within 48-hours of onset from July 2012 to March 2014. We calculated the CHADS2 scores for 3,044 patients without clinical evidence of atrial fibrillation. The presence of heart failure was substituted by Killip classification>2 on admission. Clinical follow-up data was obtained for 3 years. In addition to the in-hospital mortality, we evaluated cardiovascular events, defined as all cause death or non-fatal MI during 3-year follow up periods.

Results: In this study, enrolled patients were classified into low- (point 0–1), intermediate- (point 2–3), and high-score (point 4–6) groups by calculating CHADS2 score. Overall patients with low, intermediate and high score were divided into 1,395, 1,393 and 256 patients, respectively. In-hospital mortality among low, intermediate, and high score groups were 2.8%, 7.4% and 14.8%, respectively (P<0.001). The incidence of cardiovascular events among low, intermediate, and high score groups were 7.8%, 16.3%, 29.3%, respectively (P<0.001). Kaplan-Meier analysis showed a significant difference between the groups (Figure). The event rates were significantly higher in both high score and intermediate score group than in low score group (P<0.001). Multivariate Cox hazard analysis identified CHADS2 score (per 1 point) as an independent predictor of cardiovascular events in addition to chronic kidney disease and lower body mass index. (hazard ratio, 1.344; 95% CI, 1.239–1.459; P<0.001). Among the factors constituting CHADS2 score, heart failure and age were identified as independent predictors for in-hospital mortality. With respect to the cardiovascular event during 3 years, heart failure, age, and previous stroke were revealed as significant independent predictors.

Conclusion: This large cohort study indicated that the CHADS2 score is useful for the prediction of in-hospital mortality and the cardiovascular events during 3-year follow up in Japanese AMI patients without atrial fibrillation.
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