Abstract: P1406

Late potentials after percutaneous coronary intervention for the treatment of acute coronary syndrome as a predictor for future significant cardiac events

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Introduction: We previously reported that LP positive patients after percutaneous coronary intervention (PCI) had higher rate of re-hospitalization compared to LP negative patients; however, the small-scale study (135 patients) did not allow further detailed analysis. In this study, therefore, we evaluated correlation between LP and later cardiac events leading to re-hospitalization more extensively in greater population.

Methods: The study enrolled 421 patients that received percutaneous coronary intervention (PCI) for the treatment of acute coronary syndrome (ACS); 24-hr high-resolution (HR) ambulatory electrocardiogram (ECG) recording was performed within 30 days post-PCI. The study subjects were divided into 2 groups based on the presence or absence of later significant cardiac events leading to re-hospitalization. Various baseline characteristics and ECG parameters including LP were compared between two groups to identify the predictor(s) for a risk of later cardiac events leading to re-hospitalization. Presence or absence of LP was evaluated based on 3 different conditions, ie, the worst, mean and best values, from 24-hr signal-averaged QRS wave data in each individual subject.

Results: During the post-PCI follow-up period, 90 patients were re-hospitalized due to cardiac events. Multivariate analysis identified only positive LP based on the worst value as an independent predictor for re-hospitalization with OR 2.26. Most of re-hospitalization cases (>75%) were predominantly attributed to ischemic cardiac events including ACS recurrence and effort angina. LP positive population had significantly higher incidences of these 2 ischemic events as well as overall re-hospitalization compared to LP negative population. The predictive power of LP was decreased when it was combined with other variables. The receiver operating characteristic (ROC) analysis determined the cut-off values for positive LP consistent with the LP positive criteria previously reported and standardized.

Conclusion: The presence of LP based on the worst value from 24-hr HR ambulatory ECG post-PCI was an independent predictor for a risk of re-hospitalization due to ischemic cardiac events in ACS patients.