



ST-Segment Depression as a Predictor of three vessel disease in Non-ST-Segment elevation Acute Coronary Syndromes with Diabetes Mellitus Patients

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Abstract : Background: Electrocardiogram (ECG) is a simple, non-invasive modality widely used for diagnostic and prognostic tools in patients with non-ST-segment elevation acute coronary syndrome (NSTEMI-ACS). Early identification of three-vessel disease (3-VD) in ECG findings in NSTEMI-ACS with diabetes mellitus (DM) patients is important, due to consideration of prognosis and revascularization modalities. Previous studies that compare 3-VD incidence based on ST-segment-depression were not specified for NSTEMI-ACS with DM patients. Especially with our current national insurance system, it can be a guide for healthcare providers in terms of management strategies so that NSTEMI-ACS with DM patients get optimal management and revascularization. The objective of this study was to assess the predictive value of ST-segment depression for the incidence of 3-VD in NSTEMI-ACS with DM patients. **Methods:** 67 NSTEMI-ACS with DM patients that hospitalized from January 2015-December 2017 in Haji Adam Malik General Hospital were analyzed retrospectively. Patients were divided into two group based on ST-segment depression on admission ECG. Bivariate and multivariate analysis was performed to study the association between ST-segment depression and 3-VD, p-value < 0.05 was considered statistically significant. **Results:** Bivariate analysis shows that 3-VD incidence was higher in NSTEMI-ACS with DM patient accompanied by ST-segment depression compared to without ST-segment depression (80.6% vs 19.4 %, p < 0.001). On multiple logistic regression analysis, patients with ST-segment depression had a 27.3 fold increased the risk for 3-VD compared to patients without ST-segment depression [OR 27.3 (6.117 – 121.851), p=0.000]. **Conclusion:** The presence of ST-segment depression on admission ECG in NSTEMI-ACS with DM patients was associated with a higher incidence of 3-VD and was the strongest independent predictor of 3-VD. In clinical practice, it may serve as a simple non-invasive tool for predicting 3-VD in NSTEMI-ACS with DM patients. **Keywords :** ST-segment Depression, NSTEMI-ACS, DM, 3-VD.

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