

## Resolution of Reciprocal ST Segment Depression as Predictor for Major Cardiovascular Events in Stemi Patients Treated with Alteplase

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**Abstract : Background:** ST Elevation Myocardial Infarction (STEMI) may cause Major Cardiovascular Events (MACEs). Revascularization needs to be done in all STEMI patients to restore coronary blood flow, hence saving myocardial perfusion. Reciprocal ST Segment Depression (STSD) is associated with poor prognosis in STEMI patients receiving fibrinolytic therapy. The main purpose of this study is to evaluate MACE in STEMI patients receiving alteplase as fibrinolytic therapy using resolution in STSD.

**Methods:** This cohort prospective study with 60 subjects of STEMI patients which are evaluated for MACEs (death, heart failure, and rehospitalization) within 30 days after myocardial infarction. Resolution in reciprocal STSD is defined as resolution  $\geq 50\%$  STSD in reciprocal leads within 90 minutes after fibrinolytic therapy.

**Results:** Bivariate analysis showed that Ejection fraction (EF)  $<40\%$  with OR 8,32 (2,11-32,74),  $p=0,001$ ; smoking with OR 4,17 (1,05-16,57),  $p=0,034$ ; Anterior STEMI with OR 3,94 (1,11-13,90),  $p=0,027$ ; Creatinine  $> 1,97$  mg/dl with OR 3,69 (1,18-11,55),  $p=0,022$ ; complete outpatient medication with OR 5,23 (1,61-17,01),  $p=0,004$ ; fragmented QRS with OR 5,23 (1,61-17,01),  $p=0,001$ ; resolution in STSD with OR 26,35 (5,16-134,40),  $p<0,001$ ; resolution in ST Segment Elevation with OR 10,5 (2,97-37,24),  $p<0,001$ ; are proven to be determining factor for MACE within 30 days. Multivariate analysis showed that among those determining factors for MACEs, resolution in STSD in reciprocal leads is evidently the most dominant factor for predicting MACEs within 30 days in STEMI patients receiving fibrinolytic therapy [OR 11.47 (1.14-115.10),  $p=0.038$ ].

**Conclusion:** There is significant difference in MACEs within 30 days after myocardial infarction (MI) between patients with and without resolution in STSD. The subjects without resolution in STSD showed higher MACEs incidence. Resolution in STSD is evidently an independent predictor for MACEs within 30 days after myocardial infarction in STEMI patients.

**Keywords :** Resolution in STSD, MACE, STEMI, Fibrinolytic.