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## Acute Coronary Syndromes

### MYOCARDIAL PROTECTION DURING PCI IN STEMI: STRATEGY REPERFUSION EFFECTS IN ACUTE MI PATIENTS (STREAM STUDY)

Poster Contributions

Hall C

Sunday, March 30, 2014, 9:45 a.m.-10:30 a.m.

Session Title: Management Strategies in ST-Segment Elevation Acute Myocardial Infarction

Abstract Category: 3. Acute Coronary Syndromes: Therapy

Presentation Number: 1189-218

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**Background:** Numerous strategies have been proposed to preserve cardiac muscle during myocardial infarction. Intracoronary adenosine and post conditioning has been reported to reduce infarct size in patients with acute MI. Our purpose is to compare these two strategies.

**Methods:** Consecutive patients undergoing primary percutaneous coronary intervention (PCI) for STEMI within 6 hours after symptom onset were randomly assigned to the postconditioning, adenosine or controls group. Exclusion criteria were: previous MI, revascularization, contraindication to PCI or cardiogenic shock. Adenosine was administered in 2 mg bolus with over the wire catheter; postconditioning included 4 sequences of 1 minute balloon inflation/one minute reperfusion. Primary end point include: wall motion score index (1-6 months), ST resolution 30 minute after the procedure, cardiac markers (peak values) and infarct related end diastolic wall tickness. 2-way ANOVA is used to identify interaction between the treatment modality. A  $P < 0.05$  will be considered statistically significant.

**Results:** 46 patients were enrolled. The 3 groups were similar for age, sex, and infarct location. There was no difference between adenosine administration and postconditioning in terms of primary endpoint. There were statistical significant results among treatments (adenosine +postconditioning) vs controls. Wall motion score index at 6 months was improved in treated patients (adenosine group 1.15 WMSI mean, postconditioning group 1.15, controls group 1.89-  $p < 0.05$ ) Treated patients showed reduction in wall tickness (calculate as the percentage reduction in tickness of the ischemic wall between discharge and six months follow up) (adenosine group 13.0%, postconditioning group 19.2%, controls group 5.1%  $p < 0.05$ ). Complete ST-segment resolution occurred in 56 % of patients in the adenosine group and in 68 % of patients in postconditioning group and 27% of patients in the conventional PCI group ( $P < 0.05$ ).

**Conclusion:** Myocardial protection is feasible and well tolerated and adjunct to primary PCI ameliorate flow, prevents no reflow phenomenon, improves ventricular function and is associated with less edema of the infarcted wall.