

Prognostic Value of Serum Insulin levels in acute phase of ST Elevation Myocardial Infarction

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Metabolic syndrome is one of the risk factors of cardiovascular disease. It is based on obesity of visceral fat and accompanied with hypertension, impaired glucose tolerance, dyslipidemia. However, prognostic values of hyperinsulinemia in acute phase of ST elevation myocardial infarction (STEMI) remain unclear. We investigated the serum insulin levels for risk stratification in patient with acute STEMI.

Methods: We studied 132 consecutive patients with an AMI successfully treated with primary PCI. Blood data were obtained at admission. Patients were classified by the serum insulin levels. Left ventricular (LV) function was evaluated by cardiac catheterization 2 weeks and 6 months after the onset of AMI. The patients were followed for a median of 5 years regarding the event of either all-cause mortality or hospitalizations due to heart failure (HF). Cut-off value of the insulin level for prediction of the event was identified using ROC curves. Kaplan-Meier event curves were compared using log-rank tests.

Results: Two patients died, one of them died due to cardiac disease, and 10 were hospitalized due to HF. Patients with higher insulin level above $11\mu\text{U/ml}$ had a higher event rate than those with lower insulin levels (log rank, $p=0.0286$). There was no significant relation between the serum insulin levels and the LV functional performance.

Conclusion: Hyperinsulinemia in acute phase is an important predictor of cardiac mortality or HF hospitalizations in STEMI patients. The poor prognosis in patient with hyperinsulinemia does not depend on the LV dysfunction.