**PLAQUE CHARACTERISTICS IN HYPERINSULINEMIA PATIENTS WITH ACUTE MYOCARDIAL INFARCTION. AN OPTICAL COHERENCE TOMOGRAPHY STUDY**

**T. Nunohiro**, T. Fukushima, S. Furudono, S. Muto, H. Suenaga, S. Takeshita, H. Nakashima

Cardiovascular Medicine, Nagasaki Harbor Medical Center, Nagasaki, Japan

**Background:** Patients with Diabetes Mellitus(DM)have a higher mortality from cardiovascular events such as Acute Myocardial Infarction(AMI). However, little is known about the plaque characteristics of Hyperinsulinemia patients with AMI. To investigate, we appled the diagnostic resources of Optical Coherance Tomography(OCT).

**Method:** This study included 199 AMI STEMI patients (43% of DM) who underwent primary PCI within 24h on onset. Patients were divided 2 groups according to median insulin level on admission(12.4μU/ml). OCT was performed at coronary lesions, both culprit and non-culprit, for comparatively examining plaque morphology and vulnerability.

**Results:** Significant differences were not found in terms of the measurements of fibrous cap thickness and the presence of thin-capfibro atheroma (TCFA)between the two groups. Less coronary spasm at the site of culprit segment(P=0.047) ,erosion and lipid rich plaque at the site of non-culprit segment each had a significantly higher presence in patients with high insulinemia(9%vs1% P=0.03,72%vs54%P=0.014).Univariable logistic regression analysis demonstrated that plaque vulnerability was independently predicted by the presence of erosion(odd ratio〔OR〕of 6.75,P=0.048)and lipid rich plaque at the site of non-culprit segment(OR of 2,20,P=0.03).

**Conclusion:** These results indicate the differences of plaque vulnerabilitybetween AMI patients with vs. without hyperinsulinemia.