



## TCT@ACC-i2: Invasive and Interventional Cardiology

### IMPAIRED RENAL FUNCTION IS A PREDICTOR OF NEOATHEROSCLEROTIC CHANGES INSIDE BARE METAL STENT IN VERY LATE PHASE AFTER IMPLANTATION: EVALUATION WITH OPTICAL COHERENCE TOMOGRAPHY

#### Poster Contributions

Poster Sessions, Expo North

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**Background:** Recent studies have indicated the development of neoatherosclerotic changes inside the neointimal tissue after coronary stent implantation, which may cause secondary cardiovascular events, such as late stent thrombosis, late catch up phenomena and acute coronary syndrome in chronic phase. However, clinical predictive factors of neoatherogenic changes within bare metal stent (BMS) remains unknown. In this study, we evaluated the neointima within BMS at very late phase by optical coherence tomography (OCT), and studied the relation between clinical parameters and morphological characteristics of neointima.

**Methods:** A total of 88 patients treated with BMS (65.5 y/o) were enrolled, and then classified into routine follow-up group (RFU: 56 patients, mean follow-up duration of 0.62 years), and late follow-up group (> 3 years after implantation, LFU: 32 patients, mean follow-up duration of 7.5 years according to time from implantation to OCT evaluation. Patients with maintenance hemodialysis were excluded.

**Results:** There were no differences in baseline clinical background and laboratory data between two groups. Generalized fibrous tissue character was the major finding of neointima in RFU. LFU showed significantly higher incidence of neoatherosclerotic changes within neointima, such as lipid pool, macrophage infiltration, calcium deposition, thin-cap fibroatheroma (TCFA), intimal laceration and thrombus formation compare with RFU. In LFU group, 21 patients with neoatherosclerotic changes had significantly longer duration after implantation (8.91±2.91 vs. 4.78±2.44 years, p<0.01), and lower estimated glomerular filtration rate than those without changes (55.2±13.6 vs. 75.9±15.8 ml/min/m<sup>2</sup>, p<0.01) compared to patients without neoatherosclerosis. Multivariate analysis revealed that both indices were independent predictors for neoatherosclerosis.

**Conclusions:** This OCT study suggests that neointima within the BMS often transforms into atherosclerotic plaque. Renal dysfunction may accelerate stent-related neoatherosclerotic changes in very late phase after implantation.