**Change in Ultrasonic Tissue Characteristics of Carotid Artery Plaque Reflects That of Coronary Artery Plaque**

Poster Contributions
Poster Sessions, Expo North
Sunday, March 10, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Imaging: Echocardiographic Imaging of Patients with CAD: II
Abstract Category: 18. Imaging: Echo
Presentation Number: 1266-322

Authors: Mika Bando, Hirotsugu Yamada, Toshiyuki Niki, Susumu Nishio, Rina Tamai, Junko Hotchi, Yoshio Taketani, Takeshi Soeki, Tetsuzo Wakatsuki, Masataka Sata, Tokushima University Hospital, Tokushima, Japan

**Backgrounds:** Tissue characterization of the coronary artery plaque has been achieved by intravascular ultrasound with integrated backscatter analysis (IB-IVUS). We have attempted to apply the same concept on carotid artery plaques and developed a novel algorism named iPlaque. We hypothesized that the serial change in tissue characteristics of carotid artery plaque can predict that of coronary artery plaque.

**Methods:** Ultrasonic tissue characterization of coronary plaque by IB-IVUS and that of carotid plaque by the iPlaque were performed in 12 patients with stable angina (68 ± 5 yrs, 9 male). The % lipid pool area (%Lipid) was calculated in coronary and carotid plaques. Both tissue characterization was re-evaluated after approximately 6 months later, and the serial change of %Lipid was calculated as Δ%Lipid.

**Results:** The %Lipid in coronary plaque decreased from 41.0±14.8% to 38.0±12.5%, and that in carotid plaque also reduced from 26.4±18.0% to 17.7±17.6%. The Δ%Lipid in carotid plaque correlated with that in coronary plaque (p<0.05). Figure shows similar change in tissue characteristics of coronary and carotid plaques in a representative case.

**Conclusions:** Serial change of ultrasonic tissue characteristics of carotid plaque was associated with that of coronary plaque. The iPlaque analysis of the carotid plaques gives useful information for predicting the effects of medical intervention on the coronary plaques.