



## Stable Ischemic Heart Disease

### INCREASED ONE YEAR CARDIOVASCULAR EVENT RATE IN PATIENTS WITH CORONARY ARTERY DISEASE AND BILATERAL CAROTID ARTERY INFLAMMATION

Moderated Poster Contributions

Stable Ischemic Heart Disease Moderated Poster Theater, Poster Hall B1  
Saturday, March 14, 2015, 11:45 a.m.-11:55 a.m.

Session Title: Stable Ischemic Heart Disease: Highlighted Research

Abstract Category: 26. Stable Ischemic Heart Disease: Clinical

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**Background:** Controversy exists regarding the prognostic role of both local and systemic inflammation in coronary artery disease (CAD). Microwave radiometry (MWR) allows the valid, in vivo, noninvasive assessment of the internal temperature of carotid arteries, reflecting local inflammation. The aim of the present study was to evaluate in patients with documented CAD the prognostic significance of carotid atherosclerotic plaque inflammation, as assessed by MWR, in cardiovascular events.

**Methods:** Consecutive patients with significant CAD ( $\geq 50\%$  stenosis in at least one major epicardial vessel) were included in the study. All patients underwent 1) carotid ultrasound and 2) microwave radiometry (MWR) evaluation. Maximum carotid plaque thickness was determined in all carotids during the ultrasound study. Temperature difference ( $\Delta T$ ) by MWR was assigned as maximal temperature along the carotid artery minus minimum.  $\Delta T \geq 0.90^\circ\text{C}$  was assigned as high  $\Delta T$ . Major cardiovascular event (MACE) was defined as death, stroke, myocardial infarction or revascularization. All patients were followed-up clinically for one year.

**Results:** We included 119 consecutive patients with significant CAD. Twenty patients (16.8%) had high  $\Delta T$  temperatures bilaterally. MACE was 35% in the group with bilateral high  $\Delta T$  and 6.1% in non-high  $\Delta T$  group ( $p < 0.001$ ). By multivariate logistic regression analysis,  $\Delta T$  was an independent predictor for MACE, when adjusted for sex, age contemporary risk factors, number of vessels with significant stenosis and maximum carotid plaque thickness (OR: 11.68, 95% CI 2.20-62.00,  $p = 0.004$ ). In Kaplan-Meier plots patients with bilateral high  $\Delta T$  showed higher event and mortality rates, compared with patients in non-high  $\Delta T$  group (log-rank  $p = 0.001$  and  $p = 0.002$ , respectively).

**Conclusion:** Bilateral inflammation in carotid arteries in patients with coronary artery disease is associated with increased rate of cardiovascular events. Thus, the evaluation of functional characteristics of carotid plaques through Microwave Radiometry may have incremental prognostic impact on risk assessment of CAD patients.