Elevated Preprocedural C-Reactive Protein Levels Predict Death and Stroke in Patients After Carotid Artery Stenting

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Background: Elevated pre-procedural C-reactive protein (CRP) levels are associated with the composite endpoint of death or myocardial infarction in patients undergoing percutaneous coronary intervention. We sought to determine whether elevated pre-procedural CRP levels predict the composite endpoint of death or stroke in patients who undergo carotid artery stenting.

Methods: Between December 1999 and August 2002, we examined 133 patients with pre-procedural CRP levels who underwent carotid artery intervention from a carotid interventional registry. Using a CRP level of 3.0 mg/L as the cutoff, patients were sub-divided into high CRP (n=67) and low CRP (n=66) groups. The 30 day and 12 month composite endpoint of death or stroke were compared between the two groups (including age, gender, coronary artery disease, or prior stroke or transient ischemic attack), except for hyperlipidemia which was significantly higher in the low CRP group.

Results: No significant differences in baseline demographics were found between the two groups. The mean age was 68 ± 11 years, and EF was 51 ± 6.6 %. The site of the lesion in LM was ostial in 3 (9.3 %) patients, mid-portion of the artery in 3 patients (9.3 %) and distal in 27 (84.3 %) patients. Mean total stent length was 23.3 ± 9.7 mm. There was no in-hospital adverse event in GI and 1 death (0.7 %) in GI. After 6 months, 13.8 % of patients in GI versus 10.4 % of patients in GII had at least one major adverse event (death, myocardial infarction, target lesion revascularization or emergent CABG). TVR rate was 12.1 % in GI and 4.5 % in GII. Updated data with angiographic follow up will be available for presentation on 0.01. This increased event rate was sustained at one year (19 % vs. 5 %, p=0.01).

Conclusion: In the SECURE trial, which enrolled a very high risk group of patients, the increased event rate was sustained at one year (19 % vs. 5 %, p=0.01).