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E1787
JACC April 5, 2011
Volume 57, Issue 14

i2 SUMMIT

PRE-PROCEDURAL HIGH-SENSITIVITY C-REACTIVE PROTEIN PREDICTS DEATH, RECURRENT MYOCARDIAL INFARCTION AND STENT THROMBOSIS ACCORDING TO STENT TYPE IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION TREATED WITH PRIMARY PERCUTANEOUS CORONARY INTERVENTION

i2 Poster Contributions
Ernest N. Morial Convention Center, Hall F
Sunday, April 03, 2011, 3:30 p.m.-4:45 p.m.

Session Title: PCI - Acute MI
Abstract Category: 6. PCI - Acute MI
Session-Poster Board Number: 2506-536

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Background: High sensitivity C-reactive protein (hs-CRP) is a risk marker in populations ranging from asymptomatic patients to those with acute coronary syndromes. We investigated its prognostic value in relation to the type of stent implanted in patients with ST-segment elevation myocardial infarction (STEMI) treated with primary percutaneous coronary intervention (pPCI).

Methods: 301 patients had blood drawn immediately prior to pPCI for hs-CRP analysis. Patients were categorized according to the combination of hs-CRP level (higher or lower than 2 mg/ml) and the type of stent they had implanted (bare-metal stent (BMS) or drug-eluting stent (DES)) as follows: BMS+CRP ≤ 2 mg/L, DES+CRP ≤ 2 mg/L, DES+CRP >2 mg/L, BMS+CRP > 2 mg/L. Statistical analyses were performed for 1) only patients with preprocedural hs-CRP levels below 10mg/L, according to the low grade inflammation concept and 2) all patients, without applying a hs-CRP cut off level.

Results: 1) In patients with hs-CRP levels below 10mg/L, the combined variable of hs-CRP > 2 mg/L + BMS independently predicted the composite end point of death and MI [HR 2.425 (95% CI 1.295-4.543; P 0.006)] in multivariate analysis at 36 months follow up. There was significant interaction for hs-CRP and stent type (P.0.006). Survival analysis demonstrated significant differences (P 0.004) for the occurrence of MI and death according to categories of hs-CRP and stent type: 3 events (4.8%) in BMS+CRP ≤ 2 mg/L , 8 (11.9%) in DES+CRP ≤ 2 mg/L, 12 (17.6%) in DES+CRP > 2 mg/L and 17 (27.9%) in BMS+CRP > 2 mg/L. Of the 14 (5.4%) stent thromboses, none occurred in patients with BMS+CRP ≤ 2 mg/L. 2) In multivariate analyses for all patients, without applying the 10mg/L cut off point, hs-CRP > 2 mg/L + BMS remained a significant independent predictor of death and MI [HR 2.56 (95% CI 1.171-5.597; P 0.019)] with significant interaction between hs-CRP and stent type (P 0.045).

Conclusions: Pre-procedural hs-CRP predicts the clinical outcome after pPCI and may be a guide to future choice of stent type in patients with STEMI. Our data suggest BMS implantation when hs-CRP ≤ 2 mg/L and DES when hs-CRP > 2 mg/L in order to reduce long term adverse outcome including stent thrombosis.