The Effect of Duration Of Clopidogrel Treatment On Outcome Following Coronary Stent Implantation

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Background: Dual anti platelet therapy for 9-12 months is superior to 1 month only following coronary stenting. Whether an intermediate treatment period might be sufficient, while reducing the risk and cost of clopidogrel treatment, is unknown.

Objectives: To examine the continuous relation between the duration of clopidogrel use during the first year following coronary stenting and outcome.

Methods: We studied all patients who underwent coronary stenting at our center between 6/03 – 8/05 and performed a landmark analysis of patients who were event free (death or non-fatal AMI) 1, 3, 6, 9 and 12 months following stenting. Each cohort was followed for one year; the occurrence of death and of death or non-fatal AMI was compared between clopidogrel users and non-users at the beginning of each time point. The effect of clopidogrel on outcome was assessed in a multivariate model.

Results: Demographic and clinical data were available for 1154 patients. 974 were treated with bare-metal stents (BMS). Within this group multivariate analysis at the various time points showed a significant reduction of mortality: 6 months: 4.4% vs. 1.7%, OR : 0.11-0.99, 9 months: 3.1% vs. 0.9%, OR: 0.07-1.34 and 12 months: 3.2% vs. 1.3%, OR: 0.1-2.08. The composite of mortality or non-fatal AMI was also independently reduced by clopidogrel at all time points: 6 months: 9.5% vs. 6%, OR: 0.25-0.98, 9 months: 8.5% vs. 2.7%, OR: 0.13-0.92 and 12 months: 7.8% vs. 2%, OR: 0.05 -0.96. No statistically significant differences were shown among DES users.

Conclusions: In an observational study of 1154 consecutive patients we found that clopidogrel treatment for 12 months after coronary stenting is associated with a lower risk of death or the composite of death or non-fatal AMI in patients treated with BMS. These findings suggest that shorter treatment periods are not sufficient. The apparent lack of benefit in DES recipients was probably due to the very high rate of clopidogrel utilization among these patients.