EVALUATION OF THE EFFECT OF TWO DIFFERENT DOSES OF ASPIRIN IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFT (CABG)

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Introduction. Aspirin is the most widely used antiplatelet agent that prevents the formation of TXA_2 by inhibition of COX-1. Despite clear benefit from aspirin (ASA) in patients with cardiovascular disease, evidence of heterogeneity in the individual response has given rise to the concept of aspirin failure to prevent a thrombotic event. In this study we investigate platelet function and the antiplatelet effect of ASA in 44 patients undergoing Coronary Artery Bypass Graft **(**CABG) and randomly assigned to 100 or 325 mg/d ASA treatment. **Methods**. Venous blood was collected before, 3 and 5 days after surgical intervention. Collagen induced aggregation of platelet rich plasma (PRP) and thromboxane B_2 levels in PRP and in serum were evaluated. **Results**. Before surgery the two groups of patients were comparable in terms of platelet aggregation and TXB_2 levels. After 2 days of ASA treatment, collagen-induced aggregation was inhibited by 38% in both groups of patients and a similar degree of inhibition was recorded 5 days after surgery. 3 days after surgery serum TXB_2 levels were reduced by 95% and 90% in patients receiving 325 or 100 mg/d ASA with residual TXB_2 of 10.8±2.2 and 24.6±3.7 ng/ml ($p<0.02$), respectively. No significant differences in the levels of TXB_2 were observed after 5 days. Measurement of TXB_2 in collagen stimulated PRP showed a 80% reduction in patients treated with 100 mg ASA and 95% in those treated with 325 mg/d. **Conclusions**. In patients undergoing CABG ASA 325mg/d led to an almost complete inhibition of TXB_2 production, whereas ASA 100mg/d showed a residual amount of this metabolite. Inhibition of platelet aggregation was comparable with the two treatments.