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THE ANTIPLATELET EFFECT OF ASPIRIN IS REDUCED BY PROTON PUMP INHIBITORS IN PATIENTS WITH CORONARY ARTERY DISEASE

ACC Oral Contributions
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Background: In patients with coronary artery disease (CAD), low-dose aspirin is frequently combined with proton pump inhibitors (PPIs) to reduce the risk of dyspepsia and upper gastrointestinal bleedings. However, PPIs might attenuate the antiplatelet effect of aspirin. The aim of this study was to evaluate the effect of PPIs on platelet aggregation in CAD patients during aspirin treatment.

Methods: We included a total of 418 CAD patients, 54 of whom were treated with PPIs. All patients were treated with non-enteric coated aspirin 75 mg/day and received no other antithrombotic drugs. Platelet aggregation induced by arachidonic acid 1.0 mmol/L was assessed by Multiplate® whole blood aggregometry. Platelet activation was assessed by soluble serum P-selectin and compliance was confirmed by measurements of serum thromboxane B2.

Results: The distribution of age, gender, body mass index, blood pressure, family history, smoking, and diabetes as well as the number of previous ischemic events did not differ between groups. All patients were compliant with aspirin therapy according to serum thromboxane B2 levels. Platelet aggregation [median 180 (interquartile range 119-312) vs. 152 (84-226) aggregation units*min., p = 0.003] and soluble serum P-selectin levels [88.5 (65.2-105.8) vs. 75.4 (60.0-91.5) ng/mL, p = 0.005] were significantly higher in patients treated with PPIs. Furthermore, patients receiving PPIs had significantly higher serum thromboxane B2 levels [geometric mean 1.29 (95% confidence interval 0.96-1.72) vs. 0.92 (0.84-1.01) ng/mL, p = 0.01].

Conclusion: The antiplatelet effect of aspirin was reduced in CAD patients treated with PPIs compared with CAD patients not taking PPIs. Concomitant use of aspirin and PPIs might reduce the cardiovascular protection by aspirin.