KSN 2021
FULLY VIRTUAL MEETING
September 02 (Thu) - 05 (Sun)

Oral Communication Abstract
Presentation No. OC1-01 (Abstract Submission No. 2563)

Oral Communications 1 Sep. 2 (Thu), 10:40-12:40

Associations between urinary 11-dehydrothromboxane B2 and laboratory parameters in obese and non-obese aspirin-treated patients with cardiorenal syndrome

Kseniya Lukyanets, Ivan Pchelin
Department of Faculty Therapy, Saint Petersburg State University, Russia

Objectives: Measurement of urinary levels of 11-dehydrothromboxane B2 is one of the methods for assessing high platelet reactivity in aspirin-treated patients. There are many potential causes for increased platelet reactivity including overweight. The aim of the present study was to evaluate the associations between urinary 11-dehydrothromboxane B2 and laboratory parameters in obese and non-obese aspirin-treated patients with cardiorenal syndrome.

Methods: 82 patients with stable coronary artery disease and CKD (stages 2-4) were included in the study. Urinary levels of 11-dehydrothromboxane B2 (a stable metabolite of thromboxane A2) were assessed using ELISA kit by Enzo Life Sciences (Switzerland). Spearmen's correlation coefficient (rs) was used for statistical analysis.

Results: The median of urinary concentrations of 11-dehydrothromboxane B2 in non-obese patients was 488.36 [360.84 – 672.14] pg/mg creatinine. The median of urinary levels of 11-dehydrothromboxane B2 in obese patients amounted to 488.94 [364.63 – 602.50] pg/mg creatinine. The analysis showed a positive correlation between the urinary level of 11-dehydrothromboxane and fasting plasma glucose level in the subgroup of patients with obesity (rs=0.397, p=0.009). There were significant correlations between urinary 11-dehydrothromboxane B2 and left ventricular mass index (rs=0.714, p=0.047), end-systolic size of the left ventricle (rs=0.648, p=0.019) and erythrocyte sedimentation rate (rs=0.347, p=0.019) in subgroups of non-obese patients. In subgroups of patients with obesity, we identified statistically significant correlations between urinary 11-dehydrothromboxane B2 and platelet count (rs=-0.714, p=0.047) and platelet indices (platelet crit (rs=0.498, p=0.008) and mean platelet volume (rs=0.833, p=0.010)).

Conclusions: Our study revealed the relationships between the urinary concentration of 11-dehydrothromboxane B2 and laboratory parameters in cardiorenal syndrome. Hence, the obtained results reflect the varying response to aspirin in subgroups of non-obese and obese patients. Further studies should contribute to the development of the personalization of antiplatelet therapy