LEUKOTRIENE B4 AND PROSTAGLANDIN E2 LEVELS IN PATIENTS WITH NSAID-GASTROPATHY AFTER PANTOPRAZOLE TREATMENT

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Inroduction. NSAIDs (nonsteroidal anti-inflammatory drugs) are widely used for the prevention of cardiovascular diseases. However, depending on the dose and NSAIDs duration, there may be development of the stomach and duodenum mucosa lesions in the erosions form and ulceration even. Proton pump inhibitors (PPIs) are used to play the main role in preventing adverse effects of NSAIDs, which is called "gastrocytoprotection". Leukotriene B4 and prostaglandin E2 are the most important factors involved in processes of the aggression and protection the stomach and duodenum mucous membrane. In physiological conditions, there is a balance between the production of its arachidonic acid derivatives. NSAIDs appointment in patients with cardiovascular disorders for the thrombosis and embolism prevention leads to cyclooxygenase inhibition by changing the balance between PgE2 and LTB4, in favor of the latter, with further NSAID-gastropathy development.

Aim. The aim of this study was to investigate the impact of pantoprazole on NSAIDs gastropathies healing in patients with coronary heart disease, who took aspirin for a long time.

Materials and Methods. The study involved 70 patients with coronary heart disease, who were hospitalized to the department of Therapy of Lviv Municipal City Clinical Emergency Hospital. There were 41 male patients (58,6%), 29 female patients (41.4%). The average age was 63,5 ± 2,06 years. General clinical examination included the data of past medical history, laboratory tests, FGDS (fibrogastroduodenoscopy), stool-test to determine H. pylori. The endogenous PGE2 serum level have been determed, using ELISA reagent set PGE2 Immunoassay R&D.

According to the study design, there were 2 groups of patients. First group included 37 patients, who have been taking ASA in a dose of 75 mg per day for a long time. The second group included 33 patients which therapy included ASA in a dose 75 mg and pantoprazole 40 mg per day as additional admission. To verify the endoscopic degree evaluation of gastric mucosa destruction with NSAID gastropathies, Lanza score (2009) was used.

Results. Clinical features of erosive and ulcerative lesions in the majority of patients with NSAID-gastropaties were asymptomatic 46 (66%). However, endoscopic examination revealed changes in the stomach and duodenum mucosa. The LTB4 level in patients taking pantoprazole combined aspirin was lower (20 ng/ml) in comparing the patients treated aspirin only (50 ng/ml), $p < 0,001$. After comparing the PGE2 level in both groups, no significant difference in PGE2 level was noted ($p > 0,05$). Hence, the pantoprazole course assignment in patients with NSAIDs gastropathies occurred a significant reduction of LTB4 ($p < 0,01$), without no significant changes in PgE2 content.

Also, it was investigated that the degree of lesions on the Lanza score, was lower in patients taking pantoprazole ($p < 0,01$). The positive correlation between LTB4 level and Lanza score was marked. It means, that increasing of area of gastroduodenal mucosal lesion could significantly correlate with the LTB4 level raising. Thus, could be an important marker for the NSAIDs gastropathy diagnosis. On the other hand, correlation between PGE2 and Lanza score wasn't found.

Conclusion. The pantoprazole action mechanism in patients with NSAIDs gastropathy is associated with LTB4 inhibition, which reduce the erosive ulcerous defects progress.