

Euro Gastro 2019: Level of Type IV Collagen In Human Plasma as a Predictor of Presence of Erosive Esophagitis in Patients with Gastroesophageal Reflux Disease - Yuliya Shaukovich - Grodno State Medical University, Belarus

Yuliya Shaukovich

Grodno State Medical University, Belarus

Literature data suggest that 30-35% of patients with gastroesophageal reflux disease (GERD) have erosive esophagitis, and the presence of erosive esophagitis increases the risk of adenocarcinoma by more than 5 times. Therefore, the study of new biomarkers of esophageal mucosa damage seems to be topical.

Aim of the study: The aims of the study were to estimate the level of type IV collagen in patients with erosive and nonerosive reflux esophagitis and to create a mathematical model for predicting the presence of erosive esophagitis in patients with GERD.

Material and methods: 37 patients with GERD have been examined at Grodno city hospital №2, Belarus. For visualization of upper gastrointestinal canal esophagogastroduodenoscopy with morphological examination was used. The levels of type IV collagen were estimated in plasma by means of enzymelinked immunosorbent assay. Patients were divided into 2 groups: group 1 – patients with nonerosive esophagitis (n=26), group 2 – with erosive esophagitis (n=11). For

analyzing data nonparametric statistical methods were used. Mathematical model with probit link function has been created and ROC curve analysis was performed.

Results: In group 1 collagen type IV level in plasma was statistically significant lower in comparison with group 2 (4,529 (3,582; 5,204) and 7,329 (6,232; 8,149) ng/ml) ($p=0,000$). According to the logistic model and ROC analysis patients with collagen type IV level in plasma $> 6,08$ ng/ml have a high risk of erosive esophagitis (accuracy=91,89%, sensitivity=90,91%, specificity=92,31%,). Area under ROC curve is 0,983.

Conclusion: Patients with erosive esophagitis have higher level of plasma collagen type IV concentration in comparison with patients with nonerosive esophagitis due to more severe alterative process in esophageal mucosa with following activation of fibrosis. According to the results of study patients with collagen type IV level in plasma $>6,08$ ng/ml have a high risk of erosive esophagitis with accuracy more than 90%.