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Euro Gastro 2019: The Role of N-Terminal E-Cadherin in Evaluation of Esophageal Mucosa Damage in Patients with Gastroesophageal Reflux Disease and Obstructive Sleep Apnea/Hypopnea Syndrome - Yuliya Shaukovich - Grodno State Medical University, Belarus

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Background: Nowadays the number of complications of gastroesophageal reflux disease (GERD) is increasing all over the world. One of the conditions which can contribute development of GERD complications seems to be obstructive sleep apnea/hypopnea syndrome (OSAHS). But the mechanisms of negative impact of OSAHS on esophageal mucosa are not completely researched.

Aim: To evaluate plasma N-terminal E-cadherin concentration in patients with GERD and OSAHS.

Material and methods: 120 patients have been examined at Grodno City Hospital №2, Belarus. Patients have undergone esophagogastroduodenoscopy with biopsy of the lower third of esophagus. For diagnostics of OSAHS somnological study with calculation of apnea/hypopnea index (AHI) was performed. Plasma E-cadherin concentration was evaluated using linked immunosorbent assay. Patients were divided into 4 groups: group 1 (n=29) – with GERD, group 2 (n=35) – with GERD and OSAHS, group 3 (n=30) – with OSAHS, group 4 (n=26) – comparison group.

Results: We have not revealed statistically significant difference between group 1 and group 4 in plasma E-cadherin level (0,207 (0,128; 0,295) and 0,128 (0,067; 0,281) ng/ml (p=0,082), but patients with erosive esophagitis have higher levels of plasma E-cadherin in contrast with patients of comparison group (0,284 (0,176; 0,858) and 0,128 (0,067; 0,281) ng/ml (p=0,03). In group 2 patients demonstrate higher levels of E-cadherin in comparison with group 1 (0,379 (0,277; 0,538) and 0,207 (0,128; 0,295) ng/ml respectively (p=0,017), group 3 (0,379 (0,277; 0,538) and 0,231(0,131; 0,303) ng/ml (p=0,014), group 4 (0,379 (0,277; 0,538) and 0,128 (0,067; 0,281) ng/ml respectively (p=0,000). Positive correlation between E-cadherin level and AHI has been obtained (r=0,43, p<0,05).

Conclusions: The presence of OSAHS has negative effect on the state of esophageal mucosa in patients with GERD. This fact is confirmed by increasing of N-terminal E-cadherin in plasma and can indicate the loss of E-cadherin in esophageal mucosa with development of disturbances in functioning of tight junctions.

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