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## RELATIONSHIP BETWEEN GASTROESOPHAGEAL REFLUX DISEASE SYMPTOMS AND CIRCADIAN MELATONIN PRODUCTION

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Currently, gastroesophageal reflux disease is the actual problem of gastroenterology. The most common symptoms of gastroesophageal reflux disease are heartburn and regurgitation, which are the cause of discomfort. Single pilot studies demonstrate the effectiveness of melatonin for relieving symptoms of functional heartburn.

**Aims:** investigate the correlation of symptoms of gastroesophageal reflux disease and circadian fluctuations in melatonin levels. The investigations were carried out in 62 persons (mean age  $43.0 \pm 9.5$  years), including patients with GERD (group I, n=29), and healthy subjects (group II, n=24). The expressiveness of symptoms of GERD (heartburn and regurgitation) was estimated with the help Likert scale. Daily melatonin production was assessed by concentration of 6-sulfatoxymelatonin (6-SMT) in 24-hour urine (as well as separately for day and night). Heartburn complaints were reported by 21 (72%) patients from the group I, regurgitation was observed in 18 (62%) patients of the group I. The level of 6-SMT in the daily urine of patients of group I was significantly lower than in group II: 32.4 (8.1; 72.8) and 79.9 (33.4; 123.7) ng / ml,  $p = 0.003$ . In day and night urine, the content of 6-SMT in group I was also significantly lower than in group II: 39.2 (8.8; 77.8) and 103.6 (28.0; 164.4) ng / ml in the daily portion,  $p = 0.020$ ; 44.1 (31.7; 61.1) and 75.1 (27.9; 157.1) ng / ml in the night portion,  $p = 0.019$ . The negative correlation was revealed between the severity of heartburn and level of 6-SMT in the daily portion ( $r = -0.54$ ,  $p = 0.002$ ) and the night portion urine ( $r = -0.57$ ,  $p = 0.003$ ).

**Conclusion:** The patients with GERD have a decrease in daily production of melatonin. There was found an inverse correlation between the level of melatonin and the severity of heartburn.

### Biography

Alesia Karpovich has completed the Faculty of Medicine at the age of 25 years from Grodno State Medical University and clinical internship from Grodno State Medical University. She is the assistant of the Department of Internal Medicine. She is the author of more than 40 publications. She is working on his PhD thesis on the study of the characteristics of melatonin secretion in patients with gastroesophageal reflux disease associated with obstructive sleep apnea syndrome.

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