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## **DIAGNOSTIC SIGNIFICANCE OF SERUM INTERLEUKIN-12 DETERMINATION IN PATIENTS WITH EXACERBATION OF CHRONIC PURULENT RHINOSINUSITIS**

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**Introduction.** Immunological status in purulent chronic rhinosinusitis is characterized by changes in the cytokine spectrum of both local and systemic nature. Features of the cytokine system can be used for noninvasive diagnosis of exacerbation of chronic purulent rhinosinusitis, as well as for determining the activity of the inflammatory process, monitoring the quality of treatment, etc. Moreover, changes in the blood serum cytokine profile are often observed earlier than the generally accepted clinical and laboratory criteria appear.

**Materials and methods.** Twenty patients with chronic purulent rhinosinusitis were examined. Diagnosis was verified using clinical, laboratory and instrumental tests in accordance with the criteria developed by the WHO expert committee. The control group included twenty conditionally healthy individuals with deviated nasal septum. The research was performed according to The Code of Ethics of the World Medical Association (Declaration of Helsinki) and Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine (ETC 164). The content of interleukin-12 (IL-12) in blood serum of patients was determined by ELISA using a kit produced by Orgenium (Finland). Data were statistically processed by the GraphPad Prism 5 application using Mann-Whitney U test. Difference between groups was considered statistically significant at p

**Results.** It was established that the IL-12 blood serum concentration in patients with chronic purulent rhinosinusitis was twice as high as in the control group. ROC curve analysis revealed that the serum IL-12 level exceeding 11.11 ng/ml was informative for diagnosis of exacerbation of chronic purulent rhinosinusitis. High sensitivity (84.62%) and specificity (90%) of the method should be mentioned. AUC value was  $0.92 \pm 0.07$ , which indicated high diagnostic reliability of the method.

**Conclusions.** The level of IL-12 in blood serum of patients above 11.11 ng/ml is diagnostically significant for exacerbation of chronic purulent rhinosinusitis. The sensitivity of the method is 84.62%, and its specificity is 90%.