У хворих з нормальним рівнем Total NO не спостерігалося достовірних змін у динаміці даного показника – ні на 28-й день, ні через 3 місяці комбінованої фармакотерапії.

**Висновки.** При гострому повторному інфаркті міокарда спостерігається дисфункція ендотелію яка характеризується трьома варіантами стану системи NO – з низьким (63,75%), підвищеним (25,0%) та з відносно нормальним рівнем продукції NO (11,25%).

Ефективність комбінованої фармакотерапії у хворих, що перенесли повторний ІМ, залежить від варіанта лікування. У хворих, як з вихідним підвищенням, так і з зниженим рівнем Total NO найбільш ефективне лікування було за схемою БТ+Мнт+К.

Тривала комбінована фармакотерапія з використанням мононітросиду і корвітину/кверцетину доцільна і безпечна при тривалому застосуванні. Побічні ефекти спостерігались у 6,9% хворих і виражались помірним головним болем і відчуттям жару.

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# THE EARLY CLINICAL PREDICTORS OF THE RELAPSE EMERGENCE OF GASTRODUODENAL ULCEROUS BLEEDING

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**Introduction.** Acute upper gastrointestinal bleeding due to gastric and duodenal ulcers remains actual problems of nowadays [3, p. 469, 7, p. 2367]. Despite the advances of endoscopic haemostasis, the frequency of recurrent ulcerous bleeding remains high, which necessitates further research of its prognosis and treatment methods [4, p. 96, 10, p. 260]. Acute upper gastrointestinal bleeding complicate a number of other diseases as well, their frequency is 50-150 cases per 100 thousand per year [6, p. 106]. Despite the endoscopic haemostasis success. the frequency of relapse bleeding remains high [10, p. 255, 12, p. 3580], which necessitates to search further methods of their forecasting and treatment [2, p. 110, 8. p. 457].

**The aim of the study.** The analysis ofthe risk factors for recurrent gastroduodenal bleeding ulcer genesis.

**Material and methods of the research.** 203 patients with ulcer gastroduodenal bleeding etiology. Men – 135 (66,5%), women – 68 (33,3%). The average age was 56,6 ± 17. All the patients were examined and conservatively treated according to the protocols [11, p. 238].

**The research results and discussion.** In most cases ulcerative defects were localized in duodenum – 127 (62,3%) cases. Gastric ulcer was diagnosed in 68 (33.3%) patients.

Gastrodoudenal ulcer occurred with 9 (4,4%) patients. Regardless of the ulcer location the ulcer frequency incidence was higher in men rather than in women. The lack of ulcer history occurred in most cases (n=109 (53,4%). 10 (4,9%) patients had the ulcerative history up to 1 year, up to 1-3 years – 21 (10,3%) patients, 16 (7.8%) people suffered from peptic ulcer disease from 5 to 10 years. The ulcerative history more than10 years had 39 (19,2%) patients. After primary esophagoduodenoscopy the patients were carried at least one esophagoduodenoscopy within next 3 days in order to control haemostasis and the treatment effectiveness.

In addition, 31 (15,2%) patients were carried more than one controlling esophagoduodenoscopy. If necessary, endoscopic haemostasis was carried during

the controlling esophagoduodenoscopy. We conduct injections around the ulcer in order of endoscopic haemostasis.

For this we use saline sodium chloride with adrenaline in the ratio of 1:10, or drugs tranexamic acid (tranexam, hemaxam, sangera) in the same proportion. The injections we carry on the ulcer periphery. The relapse rate in this case is, depending on the location and other factors 2-5%. In case of the haemostasis achievement failure by endoscopic way a surgery is performed.

Rebleeding are recorded in 24 (11,8%) cases. Most bleeding recurrence (n = 11) (45,8%) occurred within 2-3 days after the receipt. At a later date recurrence occurred in 9 (37,5%) patients. The lowest number of relapses occurred during the first day – 4 (16,7 %) cases. Most cases happened with men – 17 (70,8%). 9 (64,29%) patients with the recurrent bleeding were defined with the 1 blood group I, 4 (28,57%) – with II, one 7 (14%) case was with the III and one with the IV blood groups. The majority of recurrences (n=15 (62,5%) happened with patients who had ulcer in the anamnesis. No clear link between ulcer localization and rebleeding rate was found.

The mentioned above shows that major prediction scales of the bleeding risk need to be improved. In particular, the most common scale called Forrest [5, p. 396] is static, doesn't take into account the consequences of the endoscopic treatment measures, local features, bleeding appearance mechanisms. Glasgow Blatchford scale [1, p. 1321] is based only on clinical and laboratory displays, ignores the bleeding endoscopic stigmata. Rockall scale [9, p. 320] is based on a combination of clinical and endoscopic criteria. This allows to estimate the relapse opportunity right during the primary endoscopic examination, making it more acceptable. However, the given scale does not take into account all the possible factors, that facilitate the relapses.

In our investigation 15 (62,5%) patients with relapses were diagnosed with II A class by Forrest. On the Glasgow Blatchford Score, 3 (12,5%) patients with a 0 number of items had relapses, 11 of them (45,83%) had the number of items below 5, and the other 10 (41,67%) - above 5. The relapses frequency went higher as the number of items on the Rockall Score, most cases happened to patients with 5-6 number of items (n=16 (66,67%) and higher indicators occurred in separate cases.

So, such ways of an estimation ulcer gastroduodenal bleeding etiology is not quite informative. It should be supplemented by other clinical criteria. Let us note that, common ways of the relapse risk estimation are based, mainly, on clinical observations, and ignore the haemostasis activity mechanisms, regeneration processes etc. This allows to estimate their potential opportunities, and to identify the possible failure.

**Conclusions.** The known rebleeding prediction scales do not take into account a number of important clinical and pathogenetic factors as a basis of recurrence. The advance bleeding ulcer treatment results is possible only on the basis of the complex factors which determine the effectiveness of regeneration.

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# THE STATE OF THE IMMUNE RESPONSE AND DIFFERENT CLASSES SPECIFIC IMMUNOGLOBULINS PRODUCTION TO THE CARDIOTROPIC ENTEROVIRUSES BY HEART DAMAGE CAUSED

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**Importance.** The group of enteroviruses (EV) has more than 80 species and over 60 of them are able to persist in the human body and damages of various organs and systems cause. The central and peripheral nervous system, respiratory system, digestive system, heart are more often affected. Heart damage is caused by EV Coxsackie B (types 1-5) and ECHO which are marked by cardiotropism and they are capable of affecting cardiomyocytes, endocardial endothelium, the cells of the pericardium [1, p. 46-48]. The means of diagnosis of EV infections are viral method, polymerase chain reaction and also the detection of specific immunoglobulins (Ig) of classes M, A, G to the causative agent [2, p. 58-60]. Thus the detection of the virus doesn't reflect the characteristics of the humoral immune response to the infection which main function is to protect the organism from the pathogen. It should be noted that the lack of quality test-systems for the determination of the above mentioned specific Ig was an unresolved problem until recently. The situation with the

diagnosis of cardiotropic EV infection has changed radically after the making and adoption of test-systems of Ukrainian production for the detection of specific Ig of classes M, A, G to Coxsackie and ECHO viruses into the clinical practice.

**The aim of the study** was to determine the characteristics of the production of specific antibodies (AB) to cardiotropic EV among the patients with heart damage in acute state of the disease.

**Material and methods.** There were examined 128 patients undergoing their treatment for various heart rhythm irregularities and cardiac conduction disorder at the inpatient cardiology department. All the patients were hospitalized because of the decline of the condition of the cardiovascular system. Depending on the duration of clinical manifestations of heart damage the patients were divided into 4 groups: 1 – up to 6 months, 2 – from 6 months to 1 year, 3 - from 1 to 4 years, 4 – more than 4 years. Patients' level of specific AB - Ig of classes A, M, G to EV Coxsackie and ECHO in the blood was studied. The survey was carried out by immunoenzyme method using test-systems produced by LLC "Ukrmedservis" certified in Ukraine (certificate of state registration № 6113/2007 dated 15.02.2007) which allow to determine the concentration of Ig in arbitrary units (AU/ml) equivalent to the international ones. The diagnostic level of AB which is different from healthy individuals is >6 AU/ml. The statistical processing of the obtained results of the studies was carried out using the program "MedStat". In connection with the non-parametric nature of the distribution of obtained data the median, error median, 95% confidence interval were calculated for statistical analysis. Kruskal-Wallis ANOVA by rank, nonparametric criteria of comparison (Dunn test, F-test Yates' corrected) were used, Spearman correlation coefficient was determined.

**Results.** As a result of recent studies there have been determined a high rate of registration and average levels of specific AB to EV among the patients with heart rhythm irregularities and cardiac conduction disorder in acute condition. The frequency of the determination of diagnostic levels of specific AB of M and A classes ranged in each of the 4 groups, registering, respectively, within the limits of 58.8-74.5%, and 42.9-58.8% among the examined patients. It has also been established that the average AB level of Ig G class to EV in the patients with the disease duration up to 6 months was the lowest ($6.7 \pm 1.3$ AU/ml) and it was significantly ($p<0.05$) lower than the similar indices in the groups with the duration of cardiac pathology 1-4 years ($18.1 \pm 2.3$ AU/ml) and more than 4 years ($10.4 + 3.3$ AU/ml) and it also had a tendency ($p<0.1$) to the decrease compared to the index in the group with the disease duration from 6 months to 1 year ($12.9 \pm 3.3$ AU/ml). The group with the disease duration more than 4 years showed a decrease ($p<0.05$) of the level of all Ig classes in comparison with the group of the patients whose disease duration is from 1 to 4 years. The frequency analysis of