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**SCIENCE AND PRACTICE
OF TODAY**

IX

**SCIENTIFIC AND PRACTICAL
CONFERENCE**

16-19 November

Ankara, Turkey

DOI 10.46299/ISG.2020.II.IX

ISBN 978-1-63649-920-8

SCIENCE AND PRACTICE OF TODAY

Abstracts of IX International Scientific and Practical Conference

Ankara, Turkey
November 16-19, 2020

Library of Congress Cataloging-in-Publication Data

UDC 01.1

The IX th International scientific and practical conference «Science and practice of today» November 16-19, 2020 London, Ankara, Turkey. 695 p.

ISBN - 978-1-63649-920-8

DOI - 10.46299/ISG.2020.II.IX

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A PRACTICAL APPROACH FOR THE USE OF HEMATOLOGICAL INDICES IN HEART FAILURE

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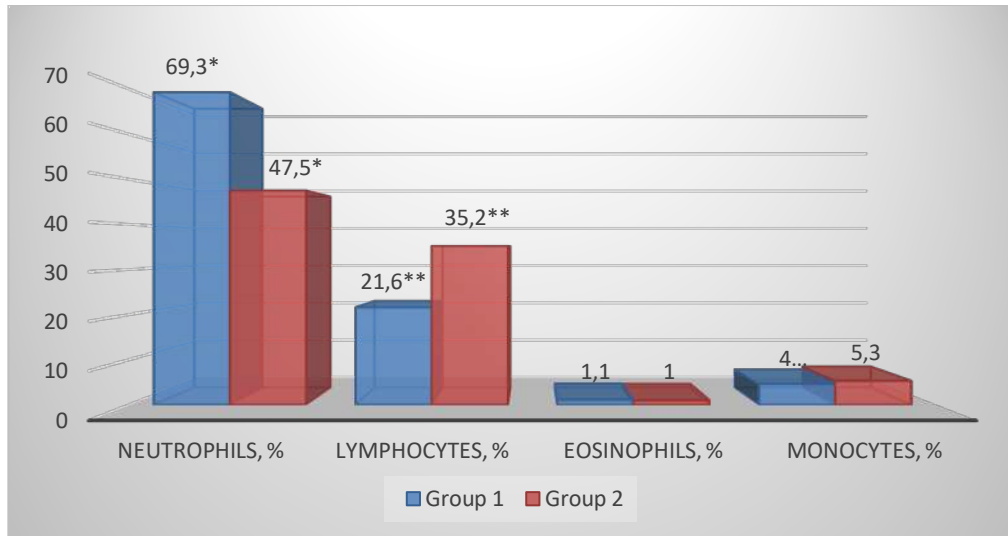
Heart failure (HF) is one of the leading causes of morbidity and mortality worldwide. It is established that simultaneously with the increase in the elderly, the prevalence of HF among the population increases, as well as the number of hospitalizations for HF, which is an important problem for health care [1]. HF - a pathological condition manifested by the inability of the circulatory system to meet the metabolic needs of the body. The classic symptoms are reduced endurance to exercise (due to shortness of breath and fatigue) [2], as well as fluid retention. Coronary heart disease (CHD) has become the leading cause of HF, it is found in more than 50% of HF patients among the adult population of European countries [3], including Ukraine.

The purpose of the study. To study the peculiarities of hematological indices in patients with HF II-III functional class (FC) of ischemic genesis.

Materials and methods of research. To achieve this goal, the data of 26 case histories diagnosed with CHD were analyzed with diagnosis Stable angina pectoris, FC II-III, Diffuse atherosclerosis; in 17 patients complicated by syndromic manifestations of HF II-III FC according to the New York Heart Association (NYHA), which formed group 1, and 9 patients without signs of HF - group 2. The age of patients ranged from 53 to 73 years for men, and 54-71 years for women. For the purpose of determination of hematological indices, a general clinical blood test was performed (the number of leukocytes, neutrophils (N), lymphocytes (L), monocytes (M) and eosinophils (E) at the time of admission). Of the hematological markers used: index ratio $N / L = N / L$; $L / M = L / M$; $L / E = L / E$.

Results and their discussion. In the analysis of general clinical blood parameters it was found that patients of group 1 in contrast to patients of group 2 had a higher total level of leukocytes $(7.7 \pm 1.5) \times 10^9$ compared $(4.2 \pm 0.2) \times 10^9$, $p < 0,001$, level neutrophils $(69.3 \pm 4.6) \%$ vs. $(47.5 \pm 3.6) \%$, $p < 0.001$, and lower lymphocytes levels in group 1 $(21.6 \pm 3.9) \%$ than in group 2 $(35.2 \pm 2.3) \%$, $p < 0.006$. It should be noted that changes indicate a more severe course of the disease, namely in patients with CHD

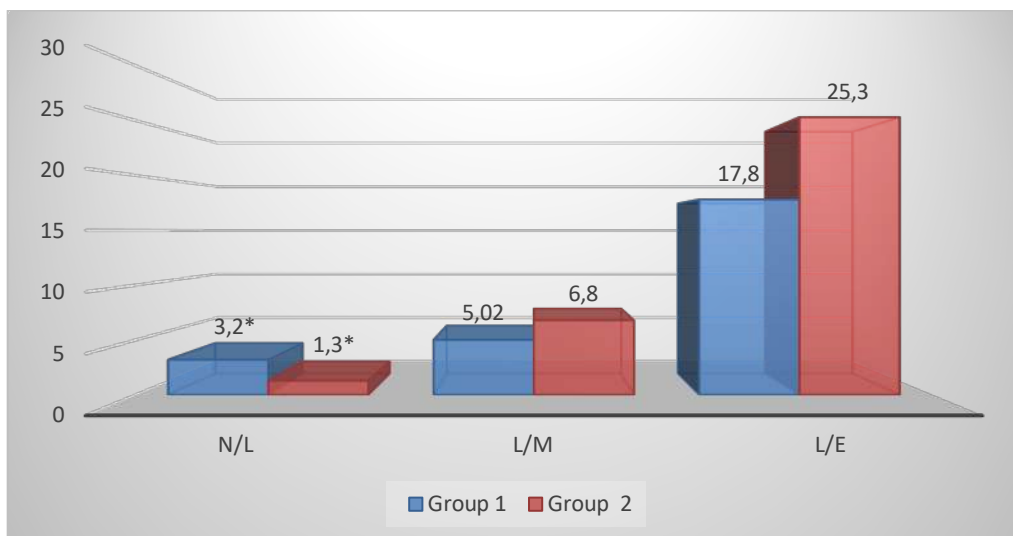
complicated by HF II-III FC. In the studied groups there were no differences between eosinophils and monocytes - Figure 1



Notes: * (p<0.001) - compared with patients of the 2nd group;
 ** (p<0.006) - compared with patients of the 2nd group.

Figure 1 - Hematogram of the studied patients.

Analysis of hematological indices showed that there is a statistically significant difference in determining the N / L index, which was increased in patients of group 1 (3.2 ± 0.5) units against group 2 (1.3 ± 0.1) units, p<0.001. The N / L ratio index represents two parts of the immune system: neutrophils, which represent the congenital system, and lymphocytes, which allow us to assess the body's adaptive system [4], which is used in clinical practice to determine the prognosis of patients. cardiovascular consequences in patients with CHD complicated by HF. Indicators of hematological indices of the ratio L / M and L / E were not statistically significant between groups – Figure 2



Notes: * (p<0.001) - compared with patients of the 2nd group.

Figure 2 - Indicators of hematological indices in the studied patients.

Conclusions. Thus, the N / L ratio index is a simple and practical way to provide valuable information in the diagnosis, prognosis and risk identification of patients with coronary heart disease complicated by heart failure.

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