

**CLINICAL FEATURES OF EROSIIVE ULCER LESIONS OF THE GASTRODUODENAL  
ZONE DEPENDING ON THE PRESENCE AND ABSENCE OF CHD****\*Kodirov Sh. S., Daminova L. T., Rashidova A. S. and Zunnunov X. M.**

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**ABSTRACT**

Purpose: in the article, the authors examine the clinical features of erosive and ulcerative lesions of the gastroduodenal zone, depending on the presence and absence of coronary heart disease. Materials and Methods: the study included 146 patients (Group 1) with coronary artery disease with erosive and ulcerative lesions of the gastroduodenal zone. As a control group (Group 2), 75 patients with coronary artery disease with erosive and ulcerative lesions of the gastroduodenal zone, but without pathology of the cardiovascular system, were examined. Results: the analysis showed that pain in the epigastric region was registered in 23.9% of cases, and an ulcer anamnesis was observed in 22,6% of patients ( $\approx \frac{1}{4}$  of patients), which should increase the vigilance of gastroenterologists regarding the differential diagnosis between coronary heart disease and erosive and ulcerative lesions of the stomach and duodenum.

**KEYWORDS:** coronary heart disease, erosive and ulcerative lesions, clinical picture.**INTRODUCTION**

Coronary heart disease (CHD) is the most common cardiovascular disease and is the leading cause of death in the world. According to WHO estimates, in 2004, 17.1 million people (29% of all deaths in the world) died from cardiovascular diseases, including 7,2 million from coronary heart disease.<sup>[2,14,18]</sup> It should be noted that a high mortality rate was observed not only in underdeveloped countries, but also in countries with a high standard of living. For example, the annual death rate among patients with coronary heart disease in the UK in 2008 was 94,000.<sup>[2,5,16]</sup> According to statistics for 2009, 785,000 people in the United States developed a myocardial infarction, coronary heart disease occurs in the country every 25 seconds, and, despite all the achievements of modern medicine, one person dies of coronary heart disease every minute.<sup>[1,3,9,11,15]</sup> Similar trends can be traced in Russia. Thus, according to the Federal State Statistics Service of the Russian Federation, in 2009 cardiovascular diseases caused the death of 523,532 women and 623,129 men.<sup>[1,4,9,15,17]</sup> The main symptom of coronary heart disease is angina pectoris, which occurs as a result of pain syndrome localized in the chest area, which usually occurs during physical exertion, and sometimes at rest.<sup>[2,5,9]</sup> The range of subjective sensations during an attack of angina pectoris can be different: a feeling of squeezing, heaviness, burning behind the sternum, accompanied by fear of death, anxiety, general weakness, increased sweating, nausea.<sup>[2,4,11]</sup> Radiating pains in the shoulder, arm, neck, back are possible. However, the cause of pain

behind the sternum can be not only the pathology of the heart and blood vessels, but also diseases of the mediastinal organs, the digestive system, respiration, and the musculoskeletal system.<sup>[1,7]</sup>

Given the narrow anatomical position and common innervation, chest pain of coronary etiology is difficult to distinguish from pain caused by diseases of the esophagus. For example, the ERASE Pain Trial, conducted in Philadelphia, found that 81-86% of patients who presented to emergency care with complaints of chest pain did not have a confirmed diagnosis of coronary heart disease.<sup>[4,10]</sup>

According to many authors, chest pain is quite common in the clinical picture of gastroesophageal reflux disease (GERD) and erosive lesions of the stomach and duodenum, second only to heartburn.<sup>[1,7,10]</sup> Among the atypical manifestations of GERD, cardiac syndrome is important, which includes not only chest pain, but also functional disorders of the heart rhythm. Physical activity can stimulate gastroesophageal reflux (GER) with subsequent development of chest pain, which can be similar to angina pectoris in intensity and nature of manifestations, which causes difficulties in differential diagnosis.<sup>[5,12]</sup> In the case of a combined pathology of coronary heart disease and diseases of the digestive system, a comprehensive examination is necessary to identify the cause of chest pain, taking into account the risk factors (RF) for the development of the disease.<sup>[1,8,13,15]</sup> It should be emphasized that general risk

factors play an important role in the high prevalence of concomitant coronary heart disease, reflux esophagitis (RE), and erosive lesions of the stomach and duodenum. The prevalence of GERD among patients with coronary heart disease confirmed by coronary angiography (CA) has been reported to range from 30 to 50%.<sup>[5,7,12]</sup>

It is well known that patients with asymptomatic coronary heart disease or rare episodes of angina pectoris do not seek medical help.<sup>[9,11,18]</sup> As a result, the results of the conducted studies do not reflect the true incidence of comorbidity among the general population.<sup>[4,9,14]</sup> The mutual influence on the occurrence and progression of symptoms of diseases of the cardiovascular and digestive systems creates not only certain diagnostic difficulties. The problem of finding optimized methods for diagnosing and treating patients with concomitant coronary heart disease and erosive and ulcerative lesions remains relevant.

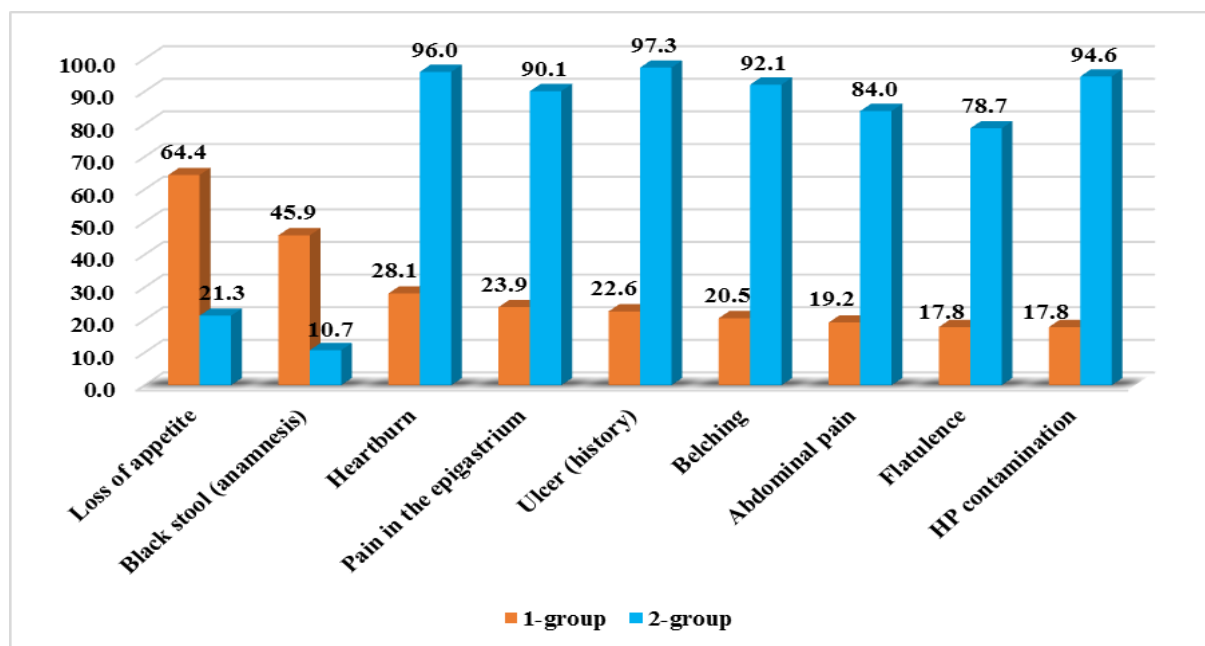
**Purpose of the study.** Evaluation of the clinical features of erosive and ulcerative lesions of the gastroduodenal zone, depending on the presence and absence of coronary heart disease.

**MATERIAL AND RESEARCH METHODS.** Evaluation of clinical manifestations of erosive and

ulcerative lesions of the gastroduodenal zone was carried out in 146 patients with coronary heart disease (CHD) - group 1. As a control group (group 2) 75 patients with coronary heart disease with erosive and ulcerative lesions of the gastroduodenal zone, but without pathology of the cardiovascular system, were examined.

All patients with clinically established coronary heart disease, along with generally accepted clinical, laboratory and instrumental studies. Patients with coronary heart disease received traditional therapy, including heparin (bolus, then infusion and subcutaneous injection), aspirin and clopidogrel (loading doses followed by maintenance doses). Statistical processing was carried out in the Excel-2017 software.

**RESEARCH RESULTS.** The analysis of the obtained results showed (Fig. 1) that in patients with erosive and ulcerative lesions of stomach and duodenum without CHD, the following symptoms prevailed: heartburn, ulcer anamnesis, belching, pain in all parts of the abdomen, flatulence, HP contamination, while in patients with erosive and ulcerative lesions of stomach and duodenum with CHD, these symptoms were an order of magnitude lower.

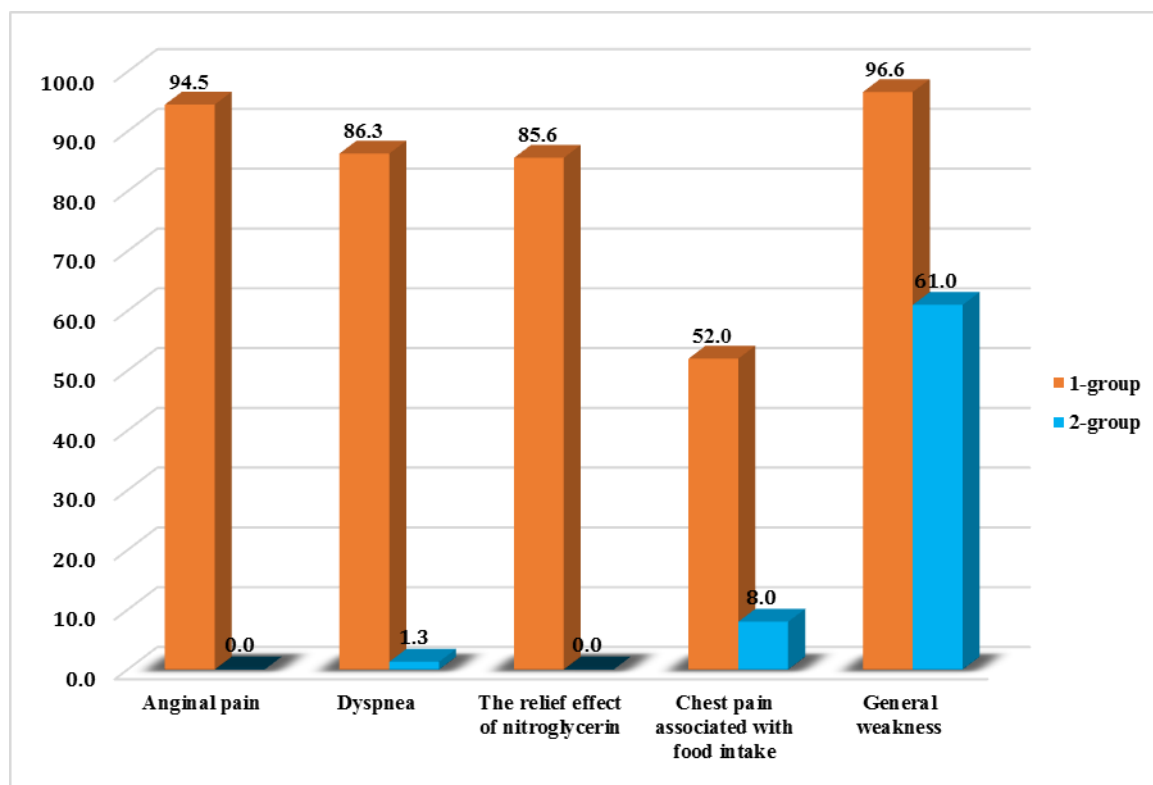


**Fig.1. The frequency of occurrence of gastric symptoms in the compared groups of patients.**

Notes: data are presented as a percentage; 1gr. – patients with erosive and ulcerative lesions of stomach and duodenum + CHD ( $n = 146$ ); 2gr. – patients with erosive and ulcerative lesions of stomach and duodenum without CHD ( $n = 75$ ); all  $p < 0,001$ .

Namely, heartburn – 3,4 times; ulcer anamnesis – 4,3 times; belching – 4,5 times; pain in all parts of the abdomen – 4,4 times; flatulence – by 4,4 times and HP contamination – by 5,3 times (17,80%), respectively (all  $p < 0,001$ ). However, such clinical signs as black stools and loss of appetite significantly prevailed (by 4,3 and

3,0 times, respectively) in the group of patients with concomitant lesions of the erosive and ulcerative lesions of stomach and duodenum and coronary heart disease (all  $p < 0,001$ ). Also noteworthy is the fact that in this group, 22,6% of patients had an ulcerative anamnesis – this is  $\approx 1/4$  of the examined.



**Fig. 2. Occurrence of the main cardiac symptoms in the compared groups of patients.**

Note: data is presented as a percentage; 1gr. – patients with erosive and ulcerative lesions of stomach and duodenum + CHD ( $n = 146$ ); 2gr. – patients with erosive and ulcerative lesions of stomach and duodenum without CHD ( $n = 75$ ); all  $p < 0,001$ .

An assessment of the occurrence of cardiac symptoms in the analyzed groups of patients is shown in Fig. 2. These data clearly demonstrate the presence of severe anginal pain in patients of group 1, and their absence in patients in the comparison group (94,5% vs 0%, respectively;  $p < 0,001$ ). Dyspnea was also a characteristic feature in group 1 patients (86,3% vs 1,33%, respectively;  $p < 0,001$ ). The relief effect of nitroglycerin was noted by 85,6% of patients of group 1, the effectiveness of which was not noted by patients of group 2. Chest pain associated with food intake was noted by 52% of patients in group 1, while in group 2 this symptom was noted only by 8% of patients ( $p < 0,001$ ). General weakness occurred in 96,6% of patients in group 1, and only in 61% of cases in group 2 (Fig. 2).

Assessment of the severity of gastropathy in coronary heart disease ( $n = 146$ ) was characterized by an imbalance between symptoms and endoscopic changes. In particular, 41 (28,1%) patients had a pronounced picture of peptic ulcer (PU) with typical characteristic complaints. In 105 (71,9%) patients, there were no symptoms of PU (the so-called "silent ulcer"), however, during EGD, all signs of erosive and ulcerative lesions of the gastroduodenal zone mucosa were detected, which, in most cases, was alarming and required additional diagnostics.

## CONCLUSION

Thus, for erosive and ulcerative lesions of stomach and duodenum in combination with coronary heart disease, the characteristic clinical signs are black stools (45,9%) and loss of appetite (64,4%), which prevailed many times in this category of patients (all  $p < 0,001$ ). Pain in the epigastric region was recorded in 23,9% of cases, and an ulcer anamnesis was noted in 22,6% of patients (i.e. ,  $\approx 1/4$  of patients), which should increase the alertness of gastroenterologists regarding the differential diagnosis between CHD and erosive and ulcerative lesions of stomach and duodenum.

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