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# Palabugina P.A., Popov A.A. CURRENT ISSUES OF CHRONIC MESENTERIC ISCHEMIA

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Annotation. The article deals with current issues of chronic mesenteric ischemia related to clinical manifestations and timely diagnosis.

Key words: chronic mesenteric ischemia, clinical manifestations, diagnosis.

#### Introduction

Chronic mesenteric ischemia (CMI) is a group of diseases caused by one or more abdominal aorta unpaired branches impairment. There are two major groups of CMI causes. The first one includes diseases of the arteries (atherosclerosis, vascular abnormalities, Takayasu'sarteriitis). The second group consists of extravasal causes (median arcuate ligament syndrome, etc.) [2]. Atherosclerotic vascular lesions occur in more than 90% of cases [1], thereforeCMI is more often diagnosed in people with cardiovascular diseases [3]. In young patients, the symptoms of CMI may be related to systemic vasculitis or connective tissue dysplasia [3].

Intestinal ischemia occurs in approximately 0.1% of hospital admissions and 1.0% of cases among those who applied to the clinic of "acute abdomen". CMI is dangerous due to life-threatening complications, including abdominal infarctions, perforations of hollow organs, and the development of sepsis [1]. Deaths due to CMI occur in 24-94% of cases [1].

Risk factors of CMI include smoking, dyslipidemia, hypertension and diabetes mellitus. Women are affected 3-4 times more often than men [3].

The exact prevalence of CMI is unknown. However, the number of patients who underwent revascularization is constantly increasing. As the population is aging and incidence of cardiovascular diseases is high, the number of patients with CMI is expected to increase in the near future [4].

**Purpose:** to study the main clinical manifestations of CMI and to identify problematic issues of the diagnosis.

Material and methods of research

A number of papers describe the clinical manifestations of CMI and their variability. CMI symptoms may resemble those of other gastrointestinal diseases. It can cause diarrhea or constipation, nausea, vomiting,etc. The main manifestations called the classical triad are post-prandial abdominal pain, weight loss, and abdominalbruit. Abdominal pain often occurs 30-60 minutes after a meal, and it causes a fear of eating [1]. However, these symptoms are also non-specific and occur only in 16-22% of cases [1,2].

According to earlier reports, the subjects with CMI were more likely to be underweight.Currently, CMI is also diagnosed in overweight or obese patients [5].

Abdominalaorta unpaired branches impairment may also occur asymptomatically due to a network of collaterals development [4]. Thus, in the study of patients younger than 65 years, asymptomatic stenosis of the celiac trunk and/or upper mesenteric artery was diagnosed in 3% of cases, and in 18% of cases in patients older than 65 years [6].

CMI clinical patterns diversity leads to late diagnosis [1]. During the examination, the identified symptoms are often considered to be related to chronic inflammatory processes and prescribed anti-inflammatory treatment turns to be ineffective. Therefore, in cases of ineffective treatment, a targeted diagnostic search for CMI is necessary.

Laboratorytestsare reported to be non-specific for CMI [3, 4]. Anemia, leukopenia, electrolyte disturbances, and hypoalbuminemia are possible [1]. Further research is needed to identify potential sensitive CMI biomarkers.

The slow course of the disease, the absence of specific symptoms, and the developed vascular collaterals network make the diagnosis very difficult, especially at early stages. Duplex ultrasonography (US), computed tomography (CT), magnetic resonance (MR), and angiography can be used as diagnostic methods. USisconsideredas a screening method [1].Using this method, it is possible to detect stenosis of the celiac trunk and the upper mesenteric artery in at least 70% of cases [4]. However, USis an operator-dependent method, and the evaluation of vessels may be hindered by previously installed stents. If CMI is suspected based on the results of US, CT angiography is required. With MR angiography, the lower mesenteric artery and smaller branches are less visualized. When CT is not possible, for example, due to kidney failure, allergy to contrast agents, MR angiography may be performed as an alternative[4].

It is also possible to detect signs of mucosal ischemia during endoscopic examinations (fibrogastroduodenoscopy, fibrocolonoscopy) with biopsy.

Methods of open (OR) and endovascular revascularization (ER) of affected vessels are used as treatment [1]. Revascularization in patients with CMI results in relieving symptoms, improving quality of life, and restoring normal body weight [4]. For many years, open revascularization has been the method of choice [4]. Outcomes after the revascularization is worse in patients with excessive body mass [5]. After open revascularization, restenosis is less likely to develop, and there is a longer relief of

symptoms [1]. Endovascular interventions lead to a decrease in the duration of hospitalization and a lower mortality rate [1].

#### Study results and discussion

In the absence of specific symptoms of CMI, a consensus of specialists (a vascular surgeon, a gastroenterologist, and a radiologist) is needed. The diagnosis is based on clinical manifestations, visualization and, if possible, assessment of signs of mucosal ischemia [4]. Development of an algorithm for early detection of CMI is urgently required.

## **Conclusions:**

1. The main clinical manifestations of CMI are postprandial abdominal pain, weight loss, and abdominal bruit.

2. The variability of symptoms leads to late diagnosis.

3. Duplex ultrasonography is a screening method for CMI diagnostics.

4. Development of an algorithm for early detection of CMI is required.

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#### ПанкратоваЕ.М., ИсаковаА.П., ВишневаЕ.М., ОСОБЕННОСТИ КОМОРБИДНЫХ СОСТОЯНИЙ У ПАЦИЕНТОВ В ГРУППЕ СЕРОНЕГАТИВНЫХ СПОНДИЛОАРТРИТОВ

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## Pankratova E.M., Isakova A.P., Vishneva E.M. PECULIARITIES OF COMORBIDE STATES IN PATIENTS IN THE GROUP OF SERONEGATIVE SPONDYLOARTHRITIS