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ACUTE MESENTERIAL THROMBOSIS. SHORT-REVIEW ARTICLE

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Abstract

The main problem with acute mesenteric thrombosis is the lack of criteria for early diagnosis, both sensitive laboratory markers and minimally invasive and extremely effective instrumental methods. But the definition of signs of an adequate volume of resection of the necrotic intestine, the prevention of insolvency of the large and small intestinal anastomoses is no less, and possibly more relevant, which calls the surgeon researchers to further in-depth study of the urgent problem of vascular mesenteric pathology.

Keywords: general surgery, emergency medicine, thrombosis, acute mesenteric thrombosis, acute thrombosis

抽象的

急性肠系膜血栓形成的主要问题是缺乏早期诊断标准，包括敏感的实验室标志物和微创且极其有效的仪器方法。但对坏死小肠切除足够体积的体征的界定，对预防大、小肠吻合口无力的作用也不亚于，而且可能更为相关，这呼吁外科医生研究人员进一步深入研究迫切需要血管肠系膜病理问题。

【关键词】：普外科 急诊内科 血栓形成 急性肠系膜血栓形成 急性血栓形成

Currently, there is an increase in the incidence of acute mesenteric thrombosis - intestinal vascular disease, while the number of surgical interventions for intestinal ischemia over the past 10-15 years has increased 2-3 times [1], which is most likely due to an increase in the life expectancy of the population and the lack of adequate diagnostic algorithm, which leads to unsatisfactory treatment of this pathology.

acute mesenteric thrombosis in the structure of stationary patients diagnosed with acute abdomen reaches 1% and 0.8% of all urgent surgical pathologies [2, 3]. Intestinal vascular pathology occupies 2% of all pathologies of the gastrointestinal tract, reaching

a peak incidence in the period of 70-79 years (11.3 people per 100,000 population) [4].

In modern realities, mortality from acute mesenteric thrombosis reaches 80% [5], and according to some researchers and 92% [6].

This is due to many factors, such as the variability of the clinical picture, the lack of specific laboratory diagnostics, which leads to a delayed adequate diagnosis, and, consequently, the progress and aggravation of intestinal ischemia, an increase in the severity of the condition and the number of clinical symptoms, a rapid decrease in the chances of a favorable outcome [7].

The clinical picture of acute mesenteric thrombosis often simulates such acute diseases as pancreatitis, cholecystitis, intestinal obstruction, food poisoning, bleeding from the gastrointestinal tract, etc. [8], ie not requiring urgent active surgical intervention, and such patients are treated conservatively, which means that the most precious time for these patients is lost [9].

It should be remembered that 12 or more hours without surgical or interventional treatment after the first symptomatology of acute mesenteric thrombosis can bring mortality to 95% [10].

Modern surgery, if acute mesenteric thrombosis is suspected, recommends ultrasound, radiography, computed tomography (CT) and magnetic resonance imaging (MRI), and in the absence of an accurate result, diagnostic endoscopy or laparoscopy is necessary.

However, the value and effectiveness of each method remains questionable, especially when viewed from a research point of view, they are debatable and widely discussed by researchers [11].

Computed tomographic angiography is recognized by scientists all over the world as the "gold standard" for diagnosis of acute mesenteric thrombosis, characterized by a sensitivity of 82-96% and a specificity of 94% [12]. And the generally accepted and ubiquitous instrumental research methods, such as plain X-ray and ultrasound of the abdominal organs, often make it possible to judge the state of the intestine only by certain indirect signs of pathologies: intestinal pneumatosis, free fluid or gas in the abdominal cavity, "pendulum-like peristalsis" of the intestine, etc. [13]. It should be borne in mind that the presence of some severe concomitant

diseases in a patient, such as cerebral stroke, heart failure, pneumonia, etc., significantly prevents the diagnosis of acute mesenteric thrombosis [14].

Taking into account that the use and effectiveness of CT are given by many researchers, the very technique of CT scan is still controversial in case of suspicion of acute mesenteric thrombosis in various clinical stages of the development of pathology. There are no clear diagnostic and prognostic CT signs of the development and outcome of acute mesenteric thrombosis at each stage of intestinal damage (ischemia, infarction, peritonitis), imitation of CT signs of acute mesenteric thrombosis in such clinically acute diseases of the abdominal organs, especially acute intestinal obstruction and benign inflammatory processes [15].

Not a single scientist has shown a correlation between CT signs of blood vessel pathology and the volume and degree of intestinal wall damage, especially for the diagnosis of acute mesenteric thrombosis, which developed against the background of chronic abdominal ischemia.

The need for computed tomographic angiography in the later stages of the disease remains unresolved and debatable. The almost identical diagnostic value of CT and Computed tomographic angiography in acute occlusions of the superior and inferior mesenteric arteries serves as the basis for the recommendations of some authors to develop more accurate criteria for the diagnosis of acute mesenteric thrombosis with a large evidence base for these techniques at each stage of the disease [16].

It should be noted that there is practically no algorithm for emergency radiological studies of a patient with suspected acute mesenteric thrombosis, which undoubtedly worsens the

diagnosis and implies the subsequent development of this problem.

The laboratory diagnostic criteria for acute mesenteric thrombosis are also not significantly improved and practically have no opportunity to facilitate the diagnosis of the early stage of the disease. The generally accepted criteria of leukocytosis and hemoconcentration, a significant increase in some liver enzymes are noted both in acute mesenteric thrombosis and in a large number of other pathologies, which does not contribute to early diagnosis and slows down adequate diagnosis of acute mesenteric thrombosis, even in advanced cases [17].

Some biochemical and laboratory markers are cited by researchers in the experimental diagnosis of acute mesenteric thrombosis (β -lactate, procalcitonin, IL-1 and IL-6, TNF- α , etc.), but none of them has found a stable application in the clinical practice of a doctor. -surgeon, which makes the development of adequate diagnostic laboratory criteria for acute mesenteric thrombosis a priority for researchers [18].

No less number of unresolved issues concerns the problem of treatment of acute mesenteric thrombosis, so the algorithm and methods of treatment of such patients have not yet been developed. Some researchers insist on the need for surgical intervention in most patients with surgery, but at an early stage it is better and safer to use anticoagulants [19] or prescribe them in conjunction with surgical treatment, which significantly reduces mortality and increases survival [20]. Other authors are of the opinion that at the stage of necrosis, resection of the necrotic altered part of the intestine is necessary, and after surgery on the mesenteric vessels [21].

But experienced surgeons know that the zone of necrosis may not coincide with the zone

of vascularization, therefore, the created primary interintestinal anastomosis has a significant risk of failure [22, 23]. Intestinal viability according to such common criteria as intestinal color, luster of the serous membrane, the presence of vascular pulsation and peristalsis, relies on subjective visual and tactile signs, which periodically misleads the surgeon [24]. Indeed, by touch and visually, it is extremely difficult to assess hidden from the eyes of the blood flow disorders of the mucous membrane, as the primary organ of acute mesenteric thrombosis [25].

Almost every surgeon is forced to decide how to complete the operation in acute mesenteric thrombosis: to impose a primary anastomosis or to perform obstructive resection followed by multiple laparotomies [26]. The most common complication of any of both methods of completing the operation is the failure of the sutures on the intestines - one of the most frequent complications of operations on the intestines, ascertained in 40% of cases [27]. Such a formidable complication is due to the severity of the patient's condition, the presence of severe concomitant pathologies and the type of surgery performed; it significantly aggravates the early postoperative period of the patient and increases the risk of death from diffuse peritonitis to 92% [28].

Conclusion

It should be concluded that the main problem with acute mesenteric thrombosis is the lack of criteria for early diagnosis, both sensitive laboratory markers and minimally invasive and extremely effective instrumental methods. But the definition of signs of an adequate volume of resection of the necrotic intestine, the prevention of insolvency of the large and small intestinal anastomoses is no less, and possibly more

relevant, which calls the surgeon researchers to further in-depth study of the urgent problem of vascular mesenteric pathology.

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