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# MESENTERIAL THROMBOSIS COMPLICATION AND PREVENTION MEASURES AFTER BARIATRIC SURGERY IN PATIENTS WITH MORBID OBESITY

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## ABSTRACT

Obesity has now become a non-infectious pandemic, and billions of people worldwide are overweight or obese.

**Aim of the study:** To improve the early diagnosis and treatment of complications of mesenteric thrombosis (MVT) after bariatric procedures in patients with morbid obesity.

Our research work was carried out on the basis of bariatric surgery performed on 3100 patients in the clinical bases of the TMA Department of Surgical Diseases in Family Medicine. For our research work, the age range was 18 to 63 years. 2542 (82%) of the patients who applied were women, 868 (28%) were men. 2201(71%) patients underwent LOBR, 837(27%) gastric bypass procedures and 62(2%) patients underwent bipartite sleeve bypass surgery. Mesenteric venous thrombosis was detected in 4 (0.1%) patients after the operation. 3(75%) of these patients underwent LOBR and 1(25%) underwent MGB. The main clinical symptoms observed in patients were as follows: abdominal pain (91.8%), daytime nausea and vomiting (30.8%), fever and bloody diarrhea - 10% of cases. Abdominal restlessness, constipation and bowel obstruction, tachycardia, SSVR symptoms were also observed. Complications of MVT in patients were observed on average 16±3 days after surgery. In these patients, relaparoscopy and relaparotomy were performed, resection of the necrotic small intestine was performed, eunodesens in 3 cases and jejunotransverse anastomosis was placed in one case.

Proper selection of patients before bariatric surgery, elimination of risk factors leading to MVT, complete thromboprophylaxis before and after surgery, prevention of severe dehydration of patients after the operation can significantly reduce the complication of MVT.

**Key words:** morbid obesity, overweight, bariatric surgery, metabolic syndrome, longitudinal gastrectomy, software product.

## INTRODUCTION

Obesity is a chronic, heterogeneous disease according to its etiology and clinical manifestations, characterized by the progressive development of its natural course and excessive accumulation of fat mass in the body. Morbid obesity is the accumulation of excess fat in the body, with a TVI of ≥40 kg/m2 or a TVI of 35 kg/m2 and the presence of serious obesity-related complications. Obesity and related metabolic diseases are an urgent problem of modern medicine, because they lead to the development of a number of serious and dangerous diseases [10,11,15]. The disease depends on the interaction of several factors, including genetic, endocrine, metabolic, environmental (social and cultural), behavioral and psychological components.

Currently, approximately 2.2 billion people worldwide live with overweight, of which about 1.5 billion live with obesity, and both indicators numbers continue to increase [1, 18,19].

The World Health Organization (WHO) has defined obesity as the percentage of body fat that increases to such an extent that it impairs human health and well-being, and has declared it a "global epidemic" due to its alarming increase in prevalence [20].

Obesity is a worldwide health problem affecting children, adolescents, and adults, and is associated with comorbidities such as hypertension, dyslipidemia, type 2 diabetes, cancer, osteoarthritis, and sleep apnea. Obesity according to expert estimates, it leads to a 4-fold increase in the risk of death from cardiovascular diseases and a 2-fold increase in death from cancer [2,13,17].

Analysis of treatment methods for chronic obesity shows that bariatric surgery is currently the only effective method for achieving long-term stable weight loss and improvement of comorbidities for this group of patients [3,17,27].

Although a healthy lifestyle seems to be the ideal way to lose weight, surgical treatment remains the most effective and scientifically successful method for people with excess adipose tissue (grade II or III obesity). Bariatric surgical procedures are recommended for patients with morbid obesity and obesity-related comorbidities [5,6,4,26].

Laparoscopic longitudinal gastrectomy is an important bariatric surgery used in the treatment of morbidly obese patients.[25]

Longitudinal gastric resection has become the most common bariatric procedure in the last decade [9,22]. The practice of vertical, lateral or longitudinal resection of the stomach is not only a bariatric procedure, but also a part of surgery proposed for the treatment of duodenogastro-biliary reflux [12, 14, 21 1. Simple surgical technique, effective early and long-term results, and relatively low

complications. due to the level of Roux-en-Y gastric bypass and adjustable gastric banding procedures dramatically increased the popularity of longitudinal resection [22, 16].

Laparoscopic longitudinal gastric resection is an important bariatric surgery used in the treatment of morbidly obese patients. Clinical studies have shown that in addition to effectively reducing body weight in obese patients, OBR can improve body fat distribution and reduce hyperuricemia.

Mesenteric vein thrombosis (MVT) is a rare but potentially fatal complication of bariatric surgery. Venous thrombosis in the portomesenteric system occurs in 0.3-1% of cases after laparoscopic bariatric procedures [23,24].

For the first time, intestinal necrosis caused by thrombosis of mesenteric vessels was described by J. Elliot in 1895. The author resected the necrotic intestinal ring, formed a double-mouthed enterostomy, and closed it after 2 weeks. However, this disease S. Warren and T. Eberhart described the most detailed in 1935, which later led to the separation of venous mesenteric thrombosis into a separate nosology.

**Objective:** to improve early diagnosis and treatment of complications of mesenteric thrombosis after bariatric procedures in patients with morbid obesity.

**Material and research methods**. Our research work was conducted on the basis of complex examination and treatment results of bariatric and metabolic surgery performed on 3100 patients in the clinical bases of the Department of Surgical Diseases in Family Medicine of the Tashkent Medical Academy. For our research work, the age range was 18 to 63 years. 2542 (82%) of the patients who applied were women, 868 (28%) were men. 2201(71%) of patients had LOBR, 837(27%) gastric bypass surgery and 62(2%) patients underwent bipartite gastric bypass surgery.

**The obtained results**. Mesenteric venous thrombosis was detected in 4 (0.1%) patients who underwent bariatric and metabolic surgery. 3(75%) of these patients underwent LOBR and 1(25%) underwent MGSh. The main clinical symptoms observed in the patients were as follows: abdominal pain (91.8%), daytime nausea and vomiting (30.8%), fever and bloody diarrhea in 10% of cases. Abdominal restlessness, constipation and bowel obstruction, tachycardia, SYaRS symptoms were also observed. Laboratory diagnostic methods used in these patients: General blood analysis (leukocytosis); blood clotting time, coagulogram, d-dimer analysis, general blood analysis, protein s, etc. The following instrumental diagnostic methods were also used: X-ray of the abdominal organs (in most cases, the arch or Kloiber cups can be detected), dopplerography of the abdominal cavity

and trunk blood vessels, CT examination of the abdominal organs with contrast, diagnostic relaparoscopy was performed when the final diagnosis was not possible.

Complications of MVT in patients were observed on average 16±3 days after surgery. In these patients, relaparoscopy and relaparotomy were performed, resection of the necrotic small intestine was performed, eunodesens in 3 cases and eunotransverse anastomosis was placed in one case. The main goal during the surgery is relaparoscopy or laparotomy. Once the diagnosis is clarified, the abdominal cavity is inspected, and viability of the intestines is assessed. If possible, mesenteric blood flow is restored. If the intestine is deemed non-viable, intestinal resection is performed, and the continuity of the gastrointestinal tract is restored through an anastomosis. The abdominal cavity is sanitized and drained with tubes. After the performed procedures, 2 of our patients died after relaparotomy in the early postoperative period. One of our patients lived 1.3 years after small bowel resection (small bowel left 20 cm from the length of Treitz) and eunodesendo anastomosis, but died of severe nutritional deficiency. One of our patients is living a normal life with external nutritional support 2 years after small intestine resection (20 cm of the small intestine is left from Treitz's ligament) and eunotransverse anastomosis. If the patient has symptoms of hypoproteinemia, hypovitaminosis and deficiency of trace elements, he is under constant medical supervision, and these deficiencies are being corrected.

Summary:

- Bariatric and metabolic surgery from practice before the following risk factors must be identified and investigated in patients: The presence of harmful habits (smoking, alcohol, etc.). the use of oral contraceptives in women of childbearing age, the presence of conditions with a genetic predisposition to thrombophilia, initial TMI, metabolic that the syndrome is expressed, surgical practice without correction of existing diseases predisposing to MVT, hereditary deep vein thrombosis or pulmonary artery thromboembolism, and protein C deficiency. If antithrombotic prophylaxis is not administered prior to vascular surgery in patients with these high risk factors may increase the risk of complications.

- Risk factors during surgery or surgical procedures: insufflation of pneumoperitoneum in the abdominal cavity with a pressure of SO2 higher than 14-15 mm cm during surgery, when the position of the patient on the surgical table (reverse Trendelenburg position) is held for a long time during surgery.

- Postoperative factors: decreased gastric volume due to the formation of a small gastric tube and dehydration due to hypovolemia for various reasons (acidosis, etc.) after the operation contribute to thrombus formation, short-term antithrombotic prophylaxis (<10 days) may increase the risk of this complication. climate factor - this factor is important in extremely hot regions.

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