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SURGICAL TREATMENT OF OBESITY AND HYPERLIPIDEMIA

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Summary. It was found that in older patients, the median duration of bariatric interventions was higher than in younger patients, but this difference did not reach statistical significance.

Key words: obesity, obesity treatment, bariatric surgery, laparoscopic longitudinal resection of the stomach, bariatric surgery, sleeve gastrectomy, gastric bypass, longitudinal resection of the stomach in combination with small intestinal bypass.

Relevance. Currently, bariatric (or metabolic) surgery is one of the most effective treatments for such socially significant diseases associated with obesity as diabetes mellitus (DM), arterial hypertension (AH), non-alcoholic fatty liver disease (NAFLD), obstructive sleep apnea (OA) and others [1,2,3,4,5,6,7,8]. Obesity itself causes significant psychological and communicative discomfort and significantly worsens the quality of life. More than 800 thousand weight loss operations are performed annually in the world, more than half of which are performed in the USA [9,10,11,12,13,14,15]. In Russia, where the problem of obesity and related pathology is no less acute than in other countries, bariatric technologies are also being actively introduced into practice. In the largest centers of bariatric surgery, leading domestic specialists prof. Yu. I. Yashkov, B. B. Khatsiev, V. V. Fedenko, V. V. Evdoshenko, A. E. Neimark, A. G. Khitaryan, M. A. Burikov, R. G. Askerkhanov and other experts perform all types of bariatric interventions [1,2,16,17,18,19,20]. The National Registry of Bariatric Surgeries has been created and is successfully functioning. According to the registry, 16,980 operations have been performed in Russia over the past 10 years [1; 21,22,23]. At the same time, according to experts, in Russia there are indications for surgical correction of metabolic disorders in a much larger number of patients with morbid obesity (MO). The reasons for the low adherence of patients and treating physicians to this method of treatment are, first of all, insufficient awareness of the effectiveness and safety of metabolic surgery, which requires further large-scale clinical trials, including randomized and multicenter ones. Most publications devoted to this problem are mainly descriptive in nature, while the accumulated experience of leading clinics amounts to several thousand observations, which allows for a wider application of

modern technologies for intelligent database analysis, including various components of the Data Mining platform, such as cluster analysis, logistic regression analysis, neural networks, etc. [24,25,26,27].

Despite the improvement of technical aspects of bariatric surgery and a large volume of performed interventions, there is still no “ideal” operation, the results of which allow satisfying patients and surgeons in terms of the benefit-risk ratio.

Single-anastomosis bypass interventions that have appeared in recent years and have already been widely introduced into everyday bariatric practice have shown comparable results in the initial assessment of immediate and long-term results with the “gold standard” - classical gastric bypass - in the spectrum of the effectiveness profile and more encouraging indicators of the safety profile [1,2,3,4,27,28,29]. The number of similar studies confirming these findings is steadily increasing, the frequency of single-anastomosis procedures performed in the spectrum of bariatric and metabolic interventions worldwide is steadily increasing [1,3]. However, priority communities, in particular the leading organization - the International Federation for the Surgery of Obesity (IFSO), have only recently included this type of intervention in the list of standard procedures that can be performed and accepted for wide clinical practice [1]. And a number of authors are still wary of this type of surgery [1,2].

At the moment, the issues of choosing the method of surgery, perioperative patient management, surgical technique, increasing the reliability of the staple suture, locoregional anesthesia, intra- and postoperative prevention of complications remain extremely relevant.

Metabolic surgery is a complex section of medical care. The rate of serious complications after bariatric surgeries reaches and exceeds 4-5% and has no obvious downward trend [1,3]. Therefore, the most important aspect of safety studies is the analysis of risks associated with the implementation of such interventions, predictors of these risks and the development of measures to improve the safety profile of bariatric interventions based on a risk management plan.

Selecting the optimal benefit-risk ratio of the upcoming intervention will allow for a personalized approach to the treatment of each individual patient suffering from this complex pathology.

Purpose of the study. To improve the results of surgical treatment of patients with morbid obesity based on predictive analysis of the effectiveness and safety of bariatric surgeries in various clinical and demographic groups.

Materials and methods. This work is based on an analysis of the results of examination and treatment of 49 patients with various types of external hernias of the anterior abdominal wall, who were examined and inpatiently treated in the 1st surgical

department of the Bukhara Regional Multidisciplinary Medical Center and the Department of Thoracoabdominal Surgery of the Multidisciplinary Clinic of the Tashkent Medical Academy for the period from 2011 to 2023. The analyzed material included women of reproductive age who planned to have children in the future. The control group consisted of all women with hernias of the anterior abdominal wall who underwent traditional hernial orifice repair without the use of allomaterial. The main group is all women with hernias of the anterior abdominal wall who underwent alloplasty according to our recommendations.

Research results and discussion. The average duration of all the operations performed by us was 110.2 ± 14.2 minutes, the median was 100 minutes, the values of the lower and upper quartiles (Q1 – Q3) were 80-130 minutes. These figures are generally consistent with the results of other authors [1,2]. The shortest operation took 10 minutes (installation of an intragastric balloon), the longest 460 minutes (RYGB in a patient with vertical gastropasty performed 15 years ago). The main factor influencing the duration of bariatric surgery was the type of surgical intervention. Statistically significant differences were observed between operations performed through endoscopic (IB), laparoscopic (MGB-OAGB, LAGB, RYGB, SG) and laparotomic (BPD) approaches, as well as between operations with 2 anastomoses (LAGB, BPD) and with one anastomosis (MGB-OAGB) or without anastomoses (SG, LAGB), medians of 155, 240, 100, 95 and 90 minutes, respectively. It should be noted that there was a significant difference in duration between RYGB and MGB-OAGB operations (medians of 155 and 100 minutes, respectively, $p < 0.01$). Both of these operations are predominantly hypoabsorptive interventions, i.e. they have a similar bariatric and metabolic mechanism of action, but a 1.5-fold reduction in the operation time and a two-fold reduction in the number of anastomoses creates prerequisites for higher efficiency and a better safety profile of the intervention for MGB-OAGB. The corresponding analysis is presented in the next chapter of the dissertation.

When analyzing the dependence of the duration of operations on the surgeon's experience, we proceeded from the fact that in order to exclude type 1 error, such an analysis should include the accumulation of experience of the same surgeon in performing the same operation for similar indications in patients with close clinical and demographic characteristics. Below is such an analysis for the operation of longitudinal gastrectomy (SG), performed for standard indications in patients with morbid obesity by the author of the work. As a result of the analysis (Table 3.2), it was established that there is a clear and statistically significant correlation between the accumulation of experience in operations and their duration [9]. When analyzing the duration of SG surgery in different periods of the author's work, it was found that the reliably shortest

duration of operations was achieved in the period 2018-2020, which indicates a significant impact of the accumulation of surgical experience on the duration of operations.

In general, the duration of operations in men was reliably longer than in women, the medians were 110 and 95 minutes, respectively.

A correlation analysis was carried out between the relationship between the "Initial weight" indicator and the "Duration of surgery" indicator.

When comparing the duration of operations in patients with different severity of obesity according to the WHO and IFSO criteria, statistically significant differences were found. In patients with super obesity, the duration of the operation was significantly and statistically significantly longer than in patients with a BMI of 30-40 kg / m². Dependence of the duration of bariatric surgery on the obesity category ($p < 0.01$; the method used: Kruskal-Wallis criterion).

A history of previous surgery on the abdominal and pelvic organs had a very significant effect on the duration of bariatric surgery. A history of laparotomic or laparoscopic surgery on the upper abdominal organs (cholecystectomy, surgery for ventral hernias and hiatal hernia, adrenalectomy) significantly and statistically significantly increased the duration of bariatric surgery. At the same time, previous surgeries on the lower abdominal cavity had virtually no effect on the duration of bariatric surgery.

Conclusions: It was found that in older patients, the median duration of bariatric interventions was higher than in younger patients, but this difference did not reach statistical significance.

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