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EARLY POSTOPERATIVE PERIOD OF INGUINAL HERNIA REPAIR

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Resume: The method of allohernioplasty for inguinal hernia (IH) used is aimed at minimizing the risk of developing major complications as a result of using a mesh prosthesis. The analysis of the results was carried out regarding the following complications: swelling and/or hematoma of the scrotum and in the wound area, seroma, prolonged apathy based on pain, the presence of a cremasteric reflex. The features of the early postoperative period with registration of all the above complications are considered.

Key words: Lichtenstein operation, alloplasty, inguinal hernia.

Introduction. Experimental and clinical studies show that early surgical treatment of inguinal hernias, especially oblique forms, is the basis for the prevention of testicular dysfunction. However, some surgical techniques and methods may themselves have a negative impact on spermatogenesis and testicular hormonal function [3,4,5]. Inguinal hernioplasty are divided into general surgical complications, such as infiltrations and the formation of subcutaneous seromas and hematomas, and those specific to this procedure.Specific complications include compression-ischemic manifestations, causalgia, damage to the scrotal organs, as well as functional disorders of the testicle, etc. [1, 2, 4]. According to these data, we decided to improve the results of surgical treatment of patients with inguinal hernias by improving the tactical and technical aspects of performing prosthetic repair.

Material and Methods. The clinical portion of the study focused on improving certain tactical and technical aspects of Lichtenstein hernioplasty for IH, with a detailed description of the specifics of the proposed method, as well as an analysis of its effectiveness**.** The study assessed the results of hernioplasty in 151 patients. Two clinical groups were formed for comparison. The main group included 73 patients with inguinal hernia who underwent hernioplasty using the proposed technique between 2024 and October 2025. The comparison group included 78 patients with IH, comparable in terms of key clinical criteria to patients in the study group. All patients underwent Lichtenstein surgery in 2022–2023. Patients in both groups were operated on at the Samarkand State Medical University Clinic. In both groups, traditional mesh prostheses (Esfil, Prolene) were used for IH plastic surgery. In both groups, more than 60% of men were over 50 years of age. The proposed technique for plastic surgery in PG with the formation of a cuff from the remains of the hernial sac around the spermatic cord and the use of two types of laser radiation is aimed at reducing the risk of complications specific to this type of intervention.

In the comparison group, various types of complications were identified in 15 (19.2%) of 78 patients, including acute urinary retention in 2 (2.6%), hematoma formation in the wound area with imbibition of the skin and subcutaneous tissue in 4 (5.1%), and severe scrotal edema with tissue hematoma in 6 (7.7%). Seroma development occurred in all cases, but in 5 patients (6.4%) with a clear accumulation of more than 20 ml based on ultrasound, a puncture was performed. Pathological pain was assessed in cases requiring analgesia within 3 days after the procedure. In the main group of patients, there were 4 (5.35%) of 73 with complications, which was

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significantly different from the results in the comparison group (Df=1; p=0.011). In 2 cases (2.7%), there was scrotal edema, and in 1 case each (1.4%), there was urinary retention and wound hematoma.

Ultraviolet laser irradiation reduces the risk of seroma formation, which has been reflected in the incidence and severity of this complication. The plastic surgery itself, with tissue mobilization and subsequent prosthesis fixation, is a factor in the formation of serous accumulations. Thus, if according to ultrasound data on the first day, a minor seroma was determined in all cases, then by the 3rd day in the main group, laser exposure ensured regression of this complication in 1/3 of patients, minor accumulations were detected in 45 (61.6%) patients, while in the comparison group, seromas were determined in 71 (91%) patients. By the fifth day, these figures were 9.6% (7 patients) versus 48.7% (38 patients). Moreover, during these periods, clinically significant seromas requiring puncture were recorded in 3 (3.8%) patients from the comparison group, and in two of them the puncture was performed three times.

Another positive factor is the reduction in pain intensity after the procedure. Wrapping the spermatic cord prevents friction and subsequent fusion of the spermatic cord with the mesh prosthesis. If an hour after the operation, patients in both groups noted the same pain intensity, then within 24 hours in the comparison group the VAS score decreased from 4.0 to 3.6 points, and in the main group from 3.9 to 2.8 points, which was significantly different from the same value in the comparison group ($t=4.20$; $p<0.05$). Subsequently, the pain level was also significantly lower in the main group and, when surveyed on the 5th day, was 2.5 versus 1.6 points ($t=4.54$; $p<0.05$).

An analysis of cremasteric reflex function is of interest. Standard Lichtenstein repair resulted in an absent cremasteric reflex in 51 (65.4%) patients, a sluggish reflex in 27 (34.6%), and an adequate "brisk" reflex absent in all cases. The advantages of the proposed method made it possible to preserve a live cremasteric reflex on days 5-7 after plastic surgery in 21 (28.8%), a sluggish reflex in 39 (53.4%), and an absence only in 13 (17.8%).

Results. As noted above, the development of various complications required additional treatment measures, which somewhat impacted the duration of early postoperative rehabilitation.The difference was due to the fact that in the comparison group, 15 patients spent 7 or more days in the hospital after surgery. The reasons for prolonged hospitalization were postoperative complications, and in 9 cases the patients themselves refused earlier discharge for psychological reasons - fear of progression of complications (seromas, hematomas, scrotal edema). If in 3 cases invasive procedures were performed (seroma puncture), then in the remaining cases in both groups the treatment of complications was conservative.

Thus, the tactical and technical aspects of the proposed improved method of allohernioplasty for IH, which consists of isolating the spermatic cord from direct contact with the mesh prosthesis, as well as the use of two types of laser radiation (intraoperatively in the ultraviolet spectrum and after surgery in the infrared spectrum) made it possible to improve the quality of early postoperative rehabilitation, which resulted in a decrease in the incidence of specific postoperative complications, a more rapid reduction in the intensity of pain, a significant difference in the functional activity of the cremasteric reflex, and a reduction in the duration of the hospital stay after plastic surgery.

Conclusions. The first clinical studies have shown that the tactical and technical aspects of the proposed improved method of allohernioplasty for IH, which involves isolating the spermatic

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cord from direct contact with the mesh prosthesis, the use of two types of laser radiation (intraoperatively in the ultraviolet spectrum and after surgery in the infrared spectrum) made it possible to improve the quality of early postoperative rehabilitation. This was manifested in a decrease in the frequency of early postoperative complications, in the structure of which a positive trend was noted in the reduction of the proportion of manifestations specific to traditional allohernioplasty of IH.

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