

OPTIMIZATION OF TREATMENT OF PATIENTS WITH POSTOPERATIVE VENTRAL HERNIA

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Abstract: the work is based on an analysis of the results of hernioplasty in 128 patients with postoperative, recurrent and primary ventral hernias. All operations were performed in the surgical departments of the clinic of the first and second clinics of Samarkand State Medical Institute in the period from 2007 to 2016. With ultrasound of the abdominal wall, it has been established that with increasing BMI, patients have an increase in the thickness of subcutaneous fat. In these patients, the fascial interlayers in the fatty tissue were less ordered. Thus, application techniques herniotomy - alloplasty supplemented dermatolipectomy makes it possible to reduce the number of general and local complications and relapses satisfy aesthetic needs of patients.

Keywords: postoperative ventral hernia, treatment, dermatolipidectomy, complication, relapse.

ОПТИМИЗАЦИЯ ЛЕЧЕНИЯ БОЛЬНЫХ С ПОСЛЕОПЕРАЦИОННЫМИ ВЕНТРАЛЬНЫМИ ГРЫЖАМИ

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Аннотация: работа основана на анализе результатов герниопластики у 128 больных послеоперационными, рецидивными и первичными вентральными грыжами. Все операции были выполнены в хирургических отделениях клиники первой и второй клиник Самаркандского государственного медицинского института в сроки с 2007 по 2016 год. При УЗИ брюшной стенки установлено, что с возрастанием показателей ИМТ у пациентов отмечается увеличение толщины подкожной жировой клетчатки. У этих пациентов фасциальные прослойки в жировой клетчатке располагались менее упорядоченно. Таким образом, применение методики грыжесечения - аллопластики, дополненной дерматолипидэктомией, дает возможность снизить количество общих и местных осложнений, рецидивов и удовлетворяет эстетические потребности пациентов.

Ключевые слова: послеоперационные вентральные грыжи, лечение, дерматолипидэктомия, осложнение, рецидив.

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Introduction. The combination of hernias of the anterior abdominal wall (AAW) with a violation of the correct proportions of the AAW and trunk, resulting from overstretching of the muscles and an increase in the thickness of the skin-fat fold of the abdomen, adversely affect the results of hernioplasty. This refers to the so-called sagging stomach or fat apron (venter pendulus). Therefore, the addition of hernioplasty with dermatolipectomy is actual and even necessary, which is aimed at restoring the morphological state of the abdominal wall, which precedes the changes that have occurred with it as a result of pregnancy, surgical interventions, prolonged bursa, obesity [4, 6, 7].

Indication for hernioplasty with dermatolipectomy can be considered massive fatty deposits of AAW, deforming the figure, interfering with hygienic procedures that promote maceration of the skin in the folds. All this in general affects the development of a complex of psychoemotional, physical, and also social inferiority, the solution of which patients see only in the restoration of the normal form of the abdomen. Therefore, the problem of plastics AAW now acquires not only medical, aesthetic, but also great social significance [1, 8, 10].

An important stage of hernioplasty with dermatolipectomy is the reliable strengthening of the weakened muscular-aponeurotic frame of AAW. From the correct choice of surgical tactics at this stage depends the result of the entire operation, aimed not only at eliminating the existing changes, but also at preventing relapse [2, 5, 15]. These operations are restorative, because provide for not only the reconstruction of the PBC, getting rid of hernias and excesses of the skin-fat layer, but also the elimination of functional disorders from the gastrointestinal tract, cardiovascular system, respiratory organs, as well as the elimination of concomitant functional abnormalities from the abdominal organs [10, 13, 14]. However, one must take into account that dermatolipectomy is not a treatment for obesity. Therefore, before resorting to it, you need to find out the causes of obesity and in various ways to achieve weight loss. If these conditions are met, new fat deposition and skin stretching in the area of surgery are possible only to a very small extent. If the operation is performed at the maximum weight, its result will be negative, since excess skin and subcutaneous fat are newly formed. Operation with a hernia should be as simple as possible and least traumatic [3, 6, 7, 12]. This principle, however, must be based on the belief that the chosen intervention will provide radical treatment. If the bulk of uncomplicated inguinal, femoral and umbilical hernias can achieve good results with fairly simple autoplasmic ways of operations, then with complex hernias, including in the above cases, surgical treatment is often a difficult task. When closing the hernial gates, due to a lack of tissue, you have to look for ways to replace them, even if you can hardly connect the edges of the operating wound, the seam is fragile. In such cases, relapse can be prevented only by transplanting the missing quantity of tissues, with the aim of which alloplastic methods of operative treatment are applied. In addition, it is necessary to maximally restore the anatomical integrity of the abdominal wall, since the muscular-aponeurotic complex forming the abdominal wall is functionally uniform [9, 11]. He plays an important, active role in the act of breathing a person, protecting internal organs, regulating intra-abdominal pressure.

Material and methods. The work is based on an analysis of the results of hernioplasty in 128 patients with postoperative, recurrent and primary ventral hernias. All operations were performed in the surgical departments of the clinic of the first and second clinics of Samarkand State Medical Institute in the period from 2007 to 2016. Estimation of the presence of excess weight and determination of the degree of obesity was carried out in accordance with the recommendations of the WHO on the basis of the definition of BMI 128 patients in accordance with the values of the indicators BMI divided into 4 groups. I - with normal weight, II - excess body weight, III - obesity and IV - morbid obesity. Ultrasound of the skin-fat and muscle-aponeurotic layer of AAW was performed in the position of the patient lying on the back in 9 topographic and anatomical regions: right and left subcostal, epigastric, right and left lateral, umbilical, right and left inguinal and pubic. In accordance with the thickness of subcutaneous fat AAW patients were divided into 3 groups. The first group with the thickness of the subcutaneous fat layer to 3 cm, the second - from 3 to 6 cm and the third - more than 6 cm.

Discussion. With ultrasound of the abdominal wall, it has been established that with increasing BMI, patients have an increase in the thickness of subcutaneous fat. In these patients, the fascial interlayers in the fatty tissue were less ordered. In Group I patients, the superficial fascia and its individual elements combined with aponeurosis of the external oblique muscle were well defined and represented by continuous plates. In patients with obesity and obesity, connective tissue plates in the fat layer were loose, thin and discontinuous superficial fascia was not always determined, and aponeurosis was thinned all over.

When studying the vascularization of PBC on the echograms of the fascial interlayers in the subcutaneous tissue of the PBC in the I and II groups of the study, the direction of the horizontal and vertical connective tissue lobes with the direction of the 6m course of the vessels is traced. The study of hemodynamics showed that with an increase in BMI rates, the total number of subcutaneous blood vessels of AAW increased by 2-3 times, with a slight change in their diameter, and the blood flow rate increased minimally in patients of groups III and IV. Such a change in the indices indicates regional hemodynamic disorders of the blood supply to the skin-fat layer of AAW. The results obtained by us in the course of the study showed that dermatolipectomy AAW reduces the force of the applied efforts necessary to compare the edges of the defect of the hernial gate with a thickness of subcutaneous fat more than 3 cm. This decrease is the maximum in the range of areas of defects formed in AAW from 30 to 150 cm² and with the thickness of the subcutaneous fat layer of the anterior abdominal wall over 3 cm.

This fact is explained by the fact that the skin-fat apron, together with the musculo-aponeurotic layer of the AAW, form a single anatomical and functional complex, which due to its mass, due to the vessels and nerves passing through it and "reinforcing" its vessels and nerves It prevents the edges of the defect from converging. Excision of the skin-fat apron leads to a decrease in the tension of the tissues. It follows that dermatolipectomy performed according to indications and supplementing hernia repair is an additional factor that reduces the stress of AAW tissues and, as a consequence, by a method that reduces the likelihood of recurrence of ventral hernias.

Treatment of complicated forms of abdominal hernia in combination with dermatolipectomy consists of the following stages: preoperative examination, preoperative preparation, operation, postoperative period, postoperative rehabilitation. Ventral hernia repair in combination with dermatolipectomy can be divided into the following stages, each of which has its own characteristics.

The marking of the operating field was carried out taking into account the type of cut. With the incision, the navel is left on the connective-tissue vascular pedicle, which must be mobilized with minimal trauma all the way to the aponeurosis. For free, without stretching the suturing of the postoperative wound, the possibility of moving the navel to a new, planned place or creating a future navel, as well as to give the abdominal wall a more correct aesthetic shape, it is necessary to mobilize the upper flap.

The next step is the removal of the skin-fat flap of the PBC and the isolation of the hernial sac. Wide mobilization makes it possible to reveal the hernial defects that were not recognized before the operation, the available areas of "weakness" of the abdominal wall. Fourteen patients from 128 (10.9%) after the hernioplasty performed simultaneous operations. 4 patients underwent cholecystectomy for calculous cholecystitis, 2 - performed an operation for liver echinococcus, 7 patients underwent gynecological operations. In 1 case, the intra-abdominal stage of the operation is completed by resection of the small intestine with the application of anastomosis. Of the 128 operated in 93 patients, plastic hernia gates were performed using an explant (polypropylene mesh), in 35 using autodermal plastics. The next step is to move the navel to a new location. The navel is an aesthetic factor. Its elimination or absence after previous operations leads to such changes and distortions in the overall cosmetic picture of the abdominal wall that the creation of an imitation of the navel, especially in young patients, is mandatory.

The navel is displaced from its original position along with the white abdominal line with hernias of the medial localization and displacement of the center of gravity. In relation to this point, parts of the body are automatically arranged so that the body maintains its equilibrium.

The human body continuously responds to a change in the position of the center of gravity in such a way as to maintain an equilibrium state. The line of projection of the center of gravity of the body in various positions of a person and even when lifting heavy objects always passes through the navel (or the navel area). During the removal of excess skin and subcutaneous tissue, the navel on a skin shred from AAW was preserved in 18 patients. It was separated from the underlying tissues. When sewing the surgical wound, the navel on the nourishing skin was applied to the wound and stitched to the edges of the skin.

Separation of the navel from the underlying tissues is associated with the intersection of the arterial branches feeding the umbilical region, which can lead to its necrosis and infection of the operating wound. Therefore, recently, the navel was removed together with excess skin and subcutaneous tissue (most of the navel with the hernias was altered and distorted). In these cases and in cases when there is no navel after previous operations, when sewing the cutaneous wound of its edge in the region of the excised navel with half-circle sutures, the "vicryl" on each side was sewn to the subject aponeurosis. The rest of the skin was sutured as usual.

When forming postoperative hernias, the straight and lateral abdominal muscles lose the medial attachment point. The necessary balance of these muscles is ensured by the white line of the abdomen, which is why the formation of an artificial white abdominal line is considered an obligatory stage in alloplasty.

The introduction of a non-tension alloplastic method of plastic surgery of the hernial gates with the formation of an artificial white abdominal line in clinical practice ensures the necessary balance of the forces of the straight and lateral muscles, preventing an excessive divergence of the rectus abdominis muscles, which allows one to resist the increase in intra-abdominal pressure of any degree evenly and steadily. The method allows to improve the immediate and long-term results of treatment of patients with complex abdominal hernias of the middle localization and extends indications to operations, especially in patients with severe respiratory and cardiac comorbidities.

Before suturing the cutaneous wound, in all cases, through the contra-perforation, we drain it with drains with active aspiration.

The outcome of surgical treatment of patients largely depends on the correct conduct of the postoperative period. In hernia operations in combination with dermatolipectomy, its main tasks are: drug prevention of respiratory and hemodynamic disorders; prevention of gastrointestinal function disorders; prevention of purulent-inflammatory wound complications.

The state of hemodynamics in patients in the postoperative period directly depends on the adequacy of replenishment of blood loss during surgery. The volume of blood loss in abdominoplasty, determined by various methods, ranges from 600 to 1200 ml, which is 20-25% of the removed volume of tissue. As a result, with an inadequate transfusion program, the severity of the patient's condition in the postoperative period may be exacerbated by the development of hypovolemia. In the postoperative period, our patients showed no significant respiratory disorders. By the end of the first day, an elastic bandage was worn on the patient, creating an additional support for the muscular aponeurotic skeleton of the abdominal wall and facilitating the adaptation and faster adhesion of the skin-fat flap of the abdominal wall with its aponeurosis, which reduces the production of tissue detritus. In the postoperative period under the supervision of the instructor of the exercise therapy the patient is provided with compulsory respiratory gymnastics. Adequately performed operation, moderate tension in the seam area contributed to a decrease in the intensity of the pain syndrome in our patients. This allowed in the postoperative period to abandon the use of analgesics of the narcotic series. With the prophylactic purpose of thrombosis, 0.3-0.6 ml of "Fraksiparin" was administered intraoperatively to patients. Injections of "Fraksiparin"

in 0.3 ml twice for 2-3 days continued after the operation, focusing on the indicators of the coagulogram. In the postoperative period, we did not observe pronounced paresis of the intestine, this is due to the fact that patients immediately after the operation received cerucal in a dose of 10 mg IM three times a day. The drug increases the muscle tone of the stomach and intestines, accelerates the emptying of the stomach, reduces the hyperacid stasis, prevents pyloric and esophageal reflux and stimulates intestinal peristalsis. To prevent purulent-inflammatory wound complications, all patients received a short (4-5 days) course of antibiotic therapy.

The most serious complication of the early postoperative period in patients with ventral hernia is acute respiratory failure. It occurs as a result of a postoperative decrease in the volume of the abdominal cavity, an increase in the tension of abdominal wall tissues after hernioplasty, which leads to an increase in the level of the diaphragm and limiting the excursion of the lungs. Six patients in the early postoperative period developed a pattern of severe respiratory failure, which required prolonged ventilation and intensive therapy lasting from 24 to 48 hours. General complications were 26 (20.3%).

Local wound complications were manifested in the form of infiltrates, hematomas, gray, ligature fistula, suppuration of the postoperative wound, marginal necrosis of the skin. The most common complication of the wound is seroma, it was found in 10 (7.8%) patients. We believe that the main cause of this complication is inadequate drainage of operating wounds. In all cases of seromy, the vacuum was eliminated by aspiration without repeated surgical intervention. Infiltrates were observed in 4 (4.3%) patients, hematomas - in 3 (2.3%).

Analysis nearest complications showed that despite the traumatic nature of the operation, at its long duration time in patients undergoing herniorrhaphysupplemented dermatolipectomy number of general and local small wound complications. A short period of inpatient postoperative stay was noted.

In assessing the long-term results of treatment of patients with herniated after herniation, supplemented with dermatolipectomy, we paid special attention to the following indices: the number of relapses, the percentage of complete social rehabilitation, that is, patient retention of work in the former specialty, aesthetic satisfaction with the results of treatment.

Long-term results were traced in 80 (86.9%) patients. The number or frequency of relapses in the postoperative period is the main criterion for the effectiveness of any method of treating hernias. Recurrent hernia was detected in 2 cases (1.5%). When clarifying the reasons for the recurrence of the disease, we found that the main reasons for the recurrence were suppuration of the postoperative wound - in one and long-lasting ligature fistulas in the second patient. Both patients suffered from grade III-IV obesity, diabetes mellitus, hypertension. The indicator of social rehabilitation indicates that working patients (45) started to work in their specialty. To assess the aesthetic results of surgical treatment, we conducted a survey and examination of patients. If the patient's aesthetic needs are satisfied, there is no recurrence of the hernia, absence of a pendulous abdomen, keloid scars - the result was regarded as good.

Satisfactory result - no recurrence of hernia, the presence of a keloid scar or the appearance of a pendulous abdomen, not full satisfaction with the cosmetic effect. Unsatisfactory - the presence of a relapse or the emergence of a coarse keloid scar and a pendulous abdomen, dissatisfaction with the patient's treatment results. When analyzing the data, a good result was found in 109 (85.1%), satisfactory - in 16 (12.5%), unsatisfactory - 3 (2.3%) patients.

Thus, application techniques herniotomy - alloplasty supplemented dermatolipectomy makes it possible to reduce the number of general and local complications and relapses satisfy aesthetic needs of patients.

References / Список литературы

1. *Abdurakhmanov Yu.X., Popovich V.K., Dobrovolskiy S.R.* Long-term quality of life of patients with postoperative ventral hernia. *Khirurgiya*, 2010. (7): 32–6 (in Russian).
2. *Azamat S., Salim D.* Factors influencing the choice of hernia repair method in patients with incisional hernias // *European science review*, 2017. № 1-2.
3. *Azamat S., Zafarjon K., Salim D.* Criteria's of choice method in surgical treatment of patients ventral hernia with concomitant obesity // *European science review*, 2016. № 3-4.
4. *Bowman K. et al.* Impact of race and socioeconomic status on presentation and management of ventral hernias // *Archives of Surgery*, 2010. T. 145. № 8. C. 776-780.
5. *Bloenmena A., van Dooren P., Huizinga B.F., Hoofwijk A.G.* Comparison of ultrasonography and physical examination prospective study. *Hernia*, 2012. 16 (1): 53–7.
6. *Davlatov S. et al.* Factor analysis method of selection of plastics abdominal wall patients with ventral hernias // *European Science*, 2017. № 2. C. 84-88.
7. *Egiev V.N.* Non-strain methods of hernioplasty. Moscow: Medpractica, 2002 (in Russian).
8. *Evans K.K., Chim H., Patel K.M. et al.* Survey on ventral hernias: surgeon indications, contraindications, and management of large ventral hernias. *Am. J. Surg.*, 2012. 78 (4): 388–97.
9. *Loh A., Rajkumar J.S., South L.M.* Anatomical repair of large incisional hernias // *Annals of The Royal College of Surgeons of England*, 1992. T. 74. № 2. C. 100.

10. *Myasnikov A.D., Kolesnikov S.A. Herniology.* For doctors of general surgical hospitals. Belgorod: Belgorodskiy gosudarstvennyy universitet, 2004 (in Russian).
11. *Millikan K.W.* Incisional hernia repair // *Surgical Clinics of North America*, 2003. T. 83. № 5. C. 1223-1234.
12. *Sabbagh C. et al.* Progressive preoperative pneumoperitoneum preparation (the Goni Moreno protocol) prior to large incisional hernia surgery: volumetric, respiratory and clinical impacts. A prospective study // *Hernia*, 2012. T. 16. № 1. C. 33-40.
13. *Shamsiev A.M., Davlatov S.S.* Xirurgicheskoe lechenie bolnix ventralnimi grijami s soputstvuyishim ojireniem // *Shpitalnaya xirurgiya. Jurnal imeni L.Ya. Kovalchuka*, 2016. № 1 (in Russian).
14. *Timoshin A.D., Yurasov A.V., Shestakov A.L.* Surgical treatment of inguinal and postsurgical hernias of the abdominal wall. Moscow: Triada X, 2003 (in Russian).
15. *Yao S., Li J.Y., Li F.D., Pei L.J.* Significance of measurements of herniary area and volume and abdominal cavity volume in the treatment of incisional hernia: application in 17 cases. *Comput. Aided. Surg.*, 2012. 17 (1): 40–5.