FACTOR ANALYSIS METHOD OF SELECTION OF PLASTICS ABDOMINAL WALL PATIENTS WITH VENTRAL HERNIAS

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Abstract: *the research work is based on analysis of hernia repair results in 228 patients with incisional, recurrent and primary ventral hernias. All operations were performed in the surgical department of the 1st and 2nd SamMI Clinics in period from 2007 to 2015. Patients were divided into two groups: the control group and the main one. Long-term results of surgical treatment of incisional and recurrent hernias were observed in 196 patients in period from 1 to 10 years. From 196 studied patients with long-term observation of outcomes 112 were in the main group, who were assessed by the mark score, and 84 were in the control group. From 84 examined patients of the control group tension hernia repair using autotissues was performed in 36 patients, hernia repair using polypropylene mesh implants in 41 and tension-free mesh repair in 7 patients. The mark score of assessment the perioperative risk criteria in patients with incisional hernias allows you to choose the best way of hernia repair based on individual characteristics of the organism and improve treatment outcomes.*
Keywords: *tension free mesh hernia repair, mark score, programm.*

ФАКТОРНЫЙ АНАЛИЗ ВЫБОРА СПОСОБА ПЛАСТИКИ БРЮШНОЙ СТЕНКИ БОЛЬНЫМ С ВЕНТРАЛЬНЫМИ ГРЫЖАМИ

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Аннотация: *работа основана на анализе результатов герниопластики у 228 больных послеоперационными, рецидивными и первичными вентральными грыжами. Все операции были выполнены в хирургическом отделении 1-й и 2-й клиник СамМИ в сроки с 2007 по 2015 год. Больные были разделены на две группы: контрольная группа и основная группа. Отдаленные результаты хирургического лечения послеоперационных и рецидивных грыж передней брюшной стенки нами прослежены у 196 больных в интервале от 1 года до 10 лет. Из 196 обследованных пациентов с изученными отдаленными результатами 112 был из основных групп, в которых использовали балльную оценку, и 84 из контрольной группы. Балльная оценка периоперационных критериев риска у больных с послеоперационными вентральными грыжами позволяет выбрать оптимальный способ пластики с учетом индивидуальных особенностей организма и улучшить результаты лечения.*
Ключевые слова: *ненатяжная герниопластика, балльная оценка, программа.*

Relevance. Despite the dynamic development of medical science, the problem of treatment of ventral hernias remains relevant. The increased incidence of ventral hernias is maintained mainly due to incisional hernias, after the laparotomy it is from 10 to 15% according to various data [1, 4]. Results of surgical treatment of incisional hernias are largely dependent on complex issues such as the rational preoperative preparation aimed at the patient's adaptation to increased intraabdominal pressure, the choice of an adequate method of hernia repair and prevention of postoperative complications [3]. In this case the surgeon has a difficult task in determining the indications for use of a particular method of hernia repair taking into account the different risk factors. As a rule, surgeon takes into account the possibility of postoperative complications and the risk of post-operative recurrence of hernia choosing the particular method of hernia repair. To solve the problems every surgeon is guided by its own criteria [2, 5]. Some authors are guided by clinical data, others - by the data of various instrumental methods of research, others use different algorithms to decide how repair the hernia. Analysis of scientific medical and patent documentation shows that in available literature three is no exact indications for use

of a particular method of hernia repair taking into account the different risk factors. The decision of the above-mentioned problems is an urgent and priority issue in modern today herniology.

Purpose of the research. To develop a program for quantifying recurrence risk factors in patients with ventral hernias.

Materials and methods. The work is based on an analysis of hernia repair results in 228 patients with incisional, recurrent and primary ventral hernias. All the operations were performed in the surgical department of the 1st and 2nd SamMI Clinics date from 2007 to 2015. The patients were divided into two groups: the control group (96 - 42.1%) and the main group (132 - 57.9%). Patients in the main group were divided into 3 subgroups (table 1).

Table 1. Distribution of the main group of patients into subgroups

Gender	Group			Total
	1st	2nd	3d	
Male	13	15	29	57
Female	22	26	27	75
Total	35	41	56	132

Table 2. Scoring system of indications to the use of different methods of hernia repair

№	*Risk factors*	*Quantitative characteristics*	*Marks*
1	Condition of the abdominal wall by ultrasound, CT.	Normal	**0**
		Mild weakness	**1**
		Severe weakness	**2**
2	Width of the hernial ring	Up to 5 cm	**0**
		6-15 cm	**1**
		More than 15 cm	**2**
3	Weight (body mass index)	Normal	**0**
		Obesity I-II degree	**1**
		Obesity III-IV degree	**2**
4	Age	Up to 40 years old	**0**
		40-60 years old	**1**
		Older than 60 years old	**2**
5	History of hernia	Up to 1 year long	**0**
		From 1 to 3 years	**1**
		Longer than 3 years	**2**
6	Physical exertion	Absent	**0**
		Moderate	**1**
		Severe	**2**
7	Functional condition of the respiratory system	No disorders	**0**
		Periodic breathing difficulties	**1**
		Chronic respiratory failure	**2**
8	Functional condition of the digestive system	No disorders	**0**
		Periodic constipation	**1**
		Persistent constipation	**2**
9	Functional condition of the urinary system	No disorders	**0**
		Periodic urination difficulties	**1**
		Constant urination difficulties	**2**
10	Severity of adhesive process	No adhesions	**0**
		Adhesions in the hernial sac	**1**
		Abdominal adhesions	**2**

In patients of the 1st subgroup with the total number of marks up to 5 (certificate of official registration - the program for electronic computers № DGU 03724) (Table. 2) tension hernia repair using local tissues was performed (Table. 3). This group consisted of patients who, as a rule, had minor defects and observed significant changes in the tissues of the anterior abdominal wall and no comorbidities. In such patients hernia repair by standard methods with th formation of dublicature was performed. In the 2nd subgroup with a score of 6 to 10, taking into account the risk of tissue tension, the various constitutional features that affect the postoperative period, we performed a combined method which is defect of aponeurosis was sutured edge to edge with additional cover of the seams by polypropylene mesh, thereby eliminating the need to overlay the double row stitches. This has allowed to avoid increase of intraabdominal pressure in the early postoperative period and to create optimal conditions for the formation of a strong postoperative scar. In the 3rd subgroup patients with the

dialed number of marks from 11 to 20 had a higher risk of tissue tension and increased intraabdominal pressure, in this case it would be advisable to apply only tension free sublay, inlay and onlay techniques, however, we believe that these techniques almost do not reduce the risk of recurrence and do not eliminate the hernia defect. Obviously, the radicalism can be achieved only by eliminating the defect, rather than by its replacement by mesh implants, and therefore the combination of tension and tension free techniques can be considered the best way of hernia repair. A significant factor holding surgeon from radical surgery, is excessive tension during the suture of tissues and a high probability of eruption of stitches in the postoperative period. In such cases, we use combined hernia repair with mobilization of rectus abdominis muscles sheaths by Ramirez. The advantages of the proposed method is that the hernia repair is performed by single-row stitching (which less reduces abdominal cavity), mobilization of rectus abdominis muscles sheaths allows to distribute uniformly and significantly reduce the pressure on the tissue during the suture.

To compare our results 164 patients of the control group who were operated on for incisional and recurrent abdominal wall hernias routinely were taken exclude scoring. We used the same technique as in the main group, at the same time we took into account the width and duration of herniation, patients' age and comorbidities, all other factors, besides the data of CT and MRI, histology and spirometric study (Table 4).

Table 3. Distribution of patients in the main group depending on gender, age and method of hernia repair

Method of hernia repair	Gender		Age			
	m.	w.	Up to 40	40 to 60	Older than 60	Total
Autoplastic hernia repair	8	17	1	18	6	25
Mesh hernia repair	12	19	1	21	9	31
Tension free mesh hernia repair	23	13	2	32	2	36
Tension free mesh hernia repair with mobilization of rectus muscles sheaths by Ramirez	14	26	9	19	12	40
Total	57	75	13	90	29	132

Table 4. Distribution of patients in the control group depending on gender, age and method of hernia repair

Method of hernia repair	Gender		Age			
	m.	w.	Up to 40	40 to 60	Older than 60	Total
Autoplastic hernia repair	12	28	5	27	8	40
Mesh hernia repair	18	30	7	26	15	48
Tension free mesh hernia repair	3	5	1	5	2	8
Total	33	63	13	58	25	96

Results and Discussion. Long-term results of surgical treatment of incisional and recurrent hernias of the anterior abdominal wall we had been observing in 196 patients in period from 1 to 10 years. From 196 observed patients with investigated long-term outcomes 112 were from the main group in which we used the score, and 84 from the control group. From 84 observed patients of the control group autoplastic hernia repair was performed in 36, mesh hernia repair in 41 and tension free mesh hernia repair in 7 patients. From the 112 investigated patients, in which hernia repair based on scoring was performed, autoplastic hernia repair was made in 19, combined mesh hernia repair - in 28, tension free mesh hernia repair - in 34 and tension free mesh hernia repair with mobilization of the rectus abdominis muscles sheaths by Ramirez - in 31. Recurrent disease we identified in 8 patients, which accounted for 4.1% of the total number (209) investigated patients. In the group, we performed hernia repair without scoring, disease recurrence was detected in 7 (8.3%) patients. Where autoplastic hernia repair was performed in 6 (7.1%), combined hernia repair stitching edge to edge with the additional strengthening of the seam line by polypropylene mesh in 1 (1.2%) patient. In group, where we used scoring, disease recurrence was detected in 1 (0.9%) patient. Reccurence occured in a patient after hernia repair using autotissues. In patients who had undergone tension free mesh hernia repair relapses have not been observed.

Conclusions. Thus, the Mark score criteria of perioperative risk in patients with incisional ventral hernias allows you to choose the optimal method of hernia repair based on individual characteristics of the organism and to improve treatment outcomes.

Список литературы / References

1. *Abbaszade T. N., Anisimov A. Yu.* Diagnostika I profilaktika rannix posleoperatsionnix ranevix oslojneniy u bolnix s bolshimi ventralnimi grijami [Diagnosis and prevention of early postoperative wound complications in patients with large ventral hernias] // Meditsinskiy vestnik Bashkortostana [Medical Bulletin of Bashkortostan], 2013. T. 8. № 3. P. 45-48 [in Russian].

2. *Davlatov S., Abdusattarova S.* Criteria's of choice method in surgical treatment of patients ventral hernia with concomitant obesity // European research: innovation in science, education and technology. C. 84.
3. *Davlatov S., Abdusattarova S.* Hernioabdominoplastics of postoperative ventral hernia in patients with obesity // XIX International scientific and practical conference «International scientific review of the problems and prospects of modern science and education». C. 84.
4. *Kukosh M. V., Vlasov A. V.* Profilaktika rannix posleoperatsionnix oslojneniy pri endoprotezirovanii ventralnix grij [Prevention of early postoperative complications of arthroplasty ventral hernias] // Novosti xirurgii [News Surgery], 2012; Vol. 20. № 5. P. 32-37 [in Russian].