РАЗДЕЛ IV. МЕДИЦИНА

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The method of intraperitoneal hernioplasty and ways to reduce the operating injury

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Abstract

The way of performance of intraperitoneal plastic surgery of umbilical hernias, technical features, assessment of results of performance of the offered way, comparison with earlier offered classical methods of performance of a hernioplasty is described in article. The operation without mobilization and removal of hernial bag allows to exclude unnecessary damage of tissues, and consequently reduces the number of postoperative complications. Intraperitoneal prosthetic plastic was carried out from the inside of the hernia bag. At the choice access length him was determined not by the size of a hernial bag, and by the sizes of hernial gate. Operation through a cavity of a hernial bag created comfortable conditions for performance of intraperitoneal plastic from the incision corresponding to the sizes of hernial gate. We didn't allow contact of an endoprosthesis with hypodermic cellulose while performing plasticity. After fixing of an endoprosthesis over it sewed leaves of the kept hernial bag. At the same time, the peritoneal surface of the hernial bag was deepithelised and created a dense presentation of the deepithelised peritoneum to the surface of the implant. This was important for the prevention of wound complications.

Keywords: umbilical hernia, intraperitoneal plastic, injury of operation.

Relevance. Interventions at umbilical hernias are followed by a high intraoperative damage. The aponeurotic and retro-muscular types of plasty are carried out, which are accompanied by wide incisions, significant dissection of tissues, additional dissection of the aponeurosis. The intraperitoneal approach to plastic surgery creates conditions for interventions with a reduction in operating injuries.

Purpose of the study. To study efficiency of ways to reduce injury at the intraperitoneal fitting a prosthesis plasticity of umbilical hernias.

Material and methods. From 2012 for 2017 96 patients with umbilical hernias are operated. The extent of defect was from 10 cm² to 855 cm². There were 15 recurrent hernias. Men have made 32 patients, women – 39. The age of patients fluctuated from 19 to 77 years.

According to the developed technique, operation was performed without removal of a hernial bag. It reduced injury of intervention. Mobilization of a hernial bag is followed by surgical actions in the cicatricial changed tissues, wide detachment of subcutaneous tissue, damage of lymphatic collectors, bleeding of fabrics. When the wound is closed, "dead spaces" are formed, it is long the liquid congestion in a wound remains lympho-retention, there is a risk of development of complications [1]. Preparation for plasticity is followed by release of an aponeurosis from hypodermic cellulose on 5-6 cm in each party and broad section of an aponeurosis. The size of a skin section usually exceeds the sizes hernial [5].

Operation without mobilization and excision of a hernial bag allowed to exclude this traumatic stage from the intervention course. Opened only the top pole of a hernial bag which served as an entrance to an abdominal cavity. The intraperitoneal making prosthetic appliance plasty was carried out from within a hernial bag by П-shaped seams.

The use of intraperitoneal plasticity made it possible to perform operations from sections of smaller length. When choosing an access, its length was determined not by the size of the hernial bag which can be much more hernial gate, but by the sizes of hernial gate and according to them. Operation through a cavity of a hernial bag created quite comfortable

conditions for performance of intraperitoneal plasticity from the section corresponding to the sizes of hernial gate [3]. Such reference points significantly reduced section length, doing it to more economical.

In particular, we used variable access. It was used at patients with the larger hernial defects and insignificant excesses of soft tissues which aren't demanding excising. Two small incisions were made, of which the entire volume of intervention was performed. Through one of the incisions, an implant was inserted and fixed from the side of the abdominal cavity with II-shaped seams. Then the implant in an abdominal cavity was moved and fixed through an aperture of other section [4, with. 248]. The displacement of soft tissues allowed the tunneling of the implant and its step-by-step fixation under visual control.

Removal of excess soft tissues in patients with large hernias was carried out according to predetermined reference lines. Bimanual reduction of opposite sides of the hernial sac was applied before they came into contact. The formed fold corresponded to the area and volume of the tissues to be removed. Points of contact were marked from the side of the skin of the hernial sac and they served as a guide for the incisions.

In addition to this technique, the midline of the abdomen applied earlier was used. The hernial bag was moved without significant tension to the lateral side and a line was made at the base of the hernial sac on the skin, coinciding with the middle line of the abdominal wall. Then, the hernial bag was displaced in the opposite direction and also marked the midline on the skin of the withdrawn hernial sac [2, p.26]. Between these lines there was a required deleted part of soft tissues. When excising their excess, the edges of the wound corresponded to the midline and were in a state of adequate comparison.

The skin, subcutaneous tissue and excess hernial sacs were dissected along the planned lines with a single block. Provided that the opposite sides of the wound were in a state of adequate juxtaposition and tension. This made it possible to compare and stitch each wound layer separately. The lines and direction of the incision often depend on the shape of the hernia gates, which forces the use of figured or transverse incisions. At hernial gate, whose width exceeds their length, cross or oblique incisions are recommended. As wound healing, these incisions do not acquire an aesthetic appearance. In cosmetic terms, the median incisions look more preferable.

During the work from the inside of the hernial bag, there is no such dependence, since there is no need to separate the hernial sac, and its cavity provided quite adequate conditions for plasty in any form of hernial gates. Application of median access became the working standard and method of the choice. Cross accesses weren't applied.

The edging incision with the dissection of the tissues with a single block made it possible to approach the membranes of the hernial sac and perform its dissection in a place free from the soldered intestinal loops. From the inside of the hernial sac it was easier to approach the areas where the soldering of the organs and the scar process is most pronounced and is associated with the separation of the intestine from the thinned skin and the coarse postoperative scar. The allocated intestinal loops were released from coarse adhesions, loop deformations and strictureformed of banners. Wide preventive elimination of the intestinal adhesive process was not used.

When performing the plastic, the endoprosthesis was not allowed to contact the subcutaneous tissue. After fixing the endoprosthesis, the sheets of the retained hernial sac were sewed over it. At the same time, the peritoneal surface of the hernial sac deepithelialized and created a dense presentation of the deepithelialized peritoneum to the surface of the implant [6]. This was important for the prevention of wound complications.

Results. The postoperative period was characterized by mild pain. Given the weak pain syndrome, physical activity was restored on the day of the operation. No narcotic painkillers were used. The weakly expressed pain syndrome was associated with the use of surgical incisions of a shorter length, performing surgery without removal of the hernial bag and without broad dissection of tissues, creating a mechanism of elastic discharge along the line of implant fixation.

Postoperative complications have arisen at 6 (6,25%) patients: suppuration of a wound (1), infiltration (1), seroma (1), regional necrosis of a skin wound (1), long paresis of intestines (2). There were no intraabdominal complications.

The applied desquamation and peritoneodesis of hernial bag allowed to exclude accumulation of fluid in the wound and avoid contact of the implant with subcutaneous tissue.

The effect was assessed by clinical signs and drainage functions. Drainage was used in 42 patients. Due to the meager amount of discharge in 38 patients, the drains were removed the day after the operation. In 4 people, the drainage tube was removed on days 3 and 5 after the intervention. At ultrasound examination on the 3rd and 5th day after the operation, fluid accumulation in the wound was not detected. Long-term results were traced in 33 patients. There were no recurrences. Patients are physically active, working capacity is preserved.

Conclusions. 1. Intraperitoneal plastic has proved its effectiveness, allowed to carry out operations without removal of hernial bag, exclusion of injuring mobilization, wide dissection of subcutaneous tissue and reduction in the size of surgical approaches.

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Soluble adhesion molecules in children with typical hemolytic uremic syndrome

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Introduction.

Typical hemolytic uremic syndrome (tHUS) is an acute disease characterized by prodromal diarrhea followed by the triad of acute kidney injury, microangiopathic hemolytic anemia and thrombocytopenia. Currently it is the most common cause of acute renal failure in children [1]. It leads to significant morbidity and mortality during the acute phase. Additionally, long-term renal and extra-renal complications may occur in a substantial number of children years after the acute episode of HUS [4]. The most common cause of tHUS is shiga toxin-producing *Escherichia coli* [1,4]. Endothelial dysfunction induced by effects of Shiga toxin plays the key role in the pathogenesis of tHUS [3,5]. Hence, cell adhesion molecules as biomarkers of endothelial activation/dysfunction may be predictors of complications and poor outcomes [2].

Patients and methods. The basic group included 17 children (9 boys, 8 girls) aged 6-128 months (median 33 months) on 2nd-4th day after onset of tHUS. 10 children (5 boys, 5 girls) of 20-78 months (median 42 months) who recovered from tHUS 6 months up to 5 years before study were included in the control group. The diagnosis of tHUS was confirmed by the development of acute renal injury, low platelet counts and hemolytic anemia after prodromal hemocolitis. 3 patients with acute tHUS had oliguria, 14 were anuric. All patients from the control group were apparently healthy, without any symptoms of intercurrent infections. Serum concentrations of soluble intracellular adhesion molecule-1 (sICAM-1) and vascular cell adhesion molecule (sVCAM-1) were measured by enzyme-linked immunosorbent assay. Leucocyte and thrombocyte counts, hemoglobin, creatinine, urea, LDG levels and estimated glomerular filtration rate were determined as well.