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CLINICAL CASE
КЛИНИЧЕСКИЙ СЛУЧАЙ

Giant Inguinoscrotal Hernia

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Abstract. The following article devoted to the case of surgical treatment of giant inguinoscrotal hernia of a patient which signed the informed consent to the processing of personal data with dimensions of hernial sac 400x330x306 mm, size of hernial gates 9x8x7cm, loops of the small intestine, mesentery, a large number of heterogeneous liquid up to 14.7 L were determined in the hernial sac. Left herniotomy was performed. Back wall plastic of the inguinal canal was performed according to Liechtenstein. Mesh implant was used for the plastic.

Key words: giant inguinoscrotal hernia, Liechtenstein herniotomy, back wall plastic, mesh implant

Author contributions. All authors were equally involved in writing of the manuscript.

Conflicts of interest statement. The authors declare no conflict of interest.

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Гигантская пахово-мошоночная грыжа

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Аннотация. В данной статье приведен случай хирургического лечения гигантской пахово-мошоночной грыжи с размерами грыжевого мешка 400*330*306 мм, размерами грыжевых ворот 9*8*7 см при информированном согласии пациента на обработку персональных данных. Содержимым грыжевого мешка были: петли тонкой кишки, ее брыжейка,

а также большое количество неоднородной жидкости в объеме 14.7 л. Больному выполнена левосторонняя герниотомия с пластикой задней стенки пахового канала по Лихтенштейну с использованием сетчатого имплантата.

Ключевые слова: гигантская пахово-мошоночная грыжа, герниотомия по Лихтенщтейну, пластика задней стенки пахового канала, сетчатый имплантат

Вклад авторов. Все авторы были в равной степени вовлечены в написание статьи.

Заявление о конфликте интересов. Авторы заявляют, что исследование проводилось при отсутствии конфликта интересов.

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Introduction

The incidence of hernias is 50 cases on 10000 population. The operation rate is the following: in Russia up to 600000, in England above 80000, in the USA about 700000, in Europe about 1000000 [1, 2]. Inguinal localization of hernias is the most widespread [3, 4]. Inguinal hernioplastic can be performed in almost every medical facility having the department of general surgery. At the same time the applied surgical techniques often correspond not to the modern achievements of herniology but to the «settings» of a particular clinic. Currently, there is no common way of hernioplastic on large and giant inguino-scrotal hernias, they are still technically complicated and highly traumatic to perform. The recurrence rate in case of the latter reaches 70–80 % [5, 6].

Despite availability of the qualified surgical care, there are still extremely neglected cases of giant inguinoscrotal hernias and patients who were declined to be operated on even in rather huge medical facilities.

The following is an example of clinical observation and surgical treatment of giant inguinoscrotal hernia.

Patient D., 61, applied to FMBA CH № 85 Moscow, Russia, in March 2019, with complaints of a hernial protrusion in the inguinal region, a significant increase of the scrotum in size. Anamnesis of the disease shows that the hernial protrusion in the inguinal region took place for 15 years and increased after physical strain. Episodes of incarceration were absent. Gradually the hernia increased in size, sank into the scrotum, reaching a giant size. It considerably reduced the patient's quality of life, he ceased moving independently, was unable to serve himself. He applied to the district and regional hospitals, but was declined of surgical treatment. The patient came to the clinic for consultation and was attended for further examination and surgical treatment.

The patient signed the informed consent to the processing of personal data (according to WMA Declaration of Helsinki- Ethical Principles for Medical Research Involving Human Subjects, 2013).

On entering the hospital, the patient's condition was of moderate severity. Body temperature 37,0. Pale skin. The patient was hypodynamic, unable to get up on his own and unable to walk, hardly sat in bed. Vesicular respiration, absent rattles. Ps 72 beats per minute. Wet tongue. The abdomen was soft, painless, absent blow. Urination free, painless.

Attention was drawn to the significant increase of the scrotum in size up to 50 cm in diameter due to hernial contents and water fluid, marked trophic skin disorders of the scrotum (presence of a trophic ulcer 4.0x5.0 cm) (Fig.1, 2).

Fig. 1. Appearance of hernia at horizontal position of the patient

Рис. 1. Внешний вид грыжи при горизонтальном положении пациента

Fig. 2. Appearance of a hernia in the sitting position of the patient

Рис. 2. Внешний вид грыжи при сидячем положении пациента

In the blood clinical analysis, anemia with a hemoglobin level of 68 g / l, a moderate leukocytosis of 10.3 × 109 / L was noted; increased ESR up to 69 mm / h. Biochemical indicators: reduction of iron content to 3.7 mkmol / l with OVCS47.9 mkmol / l, hypokalemia K + 3.9 mM/ l.

The patient underwent computer tomography of the pelvic organs, in which inguinoscrotal hernia with dimensions of hernial sac 400x330x306 mm was revealed. The size of the hernial gates was 9x8x7cm. In the hernial sac, the loops of the small intestine, the mesentery, and a large number of non-uniform liquids up to 14.7 L were determined (Figures 3, 4).

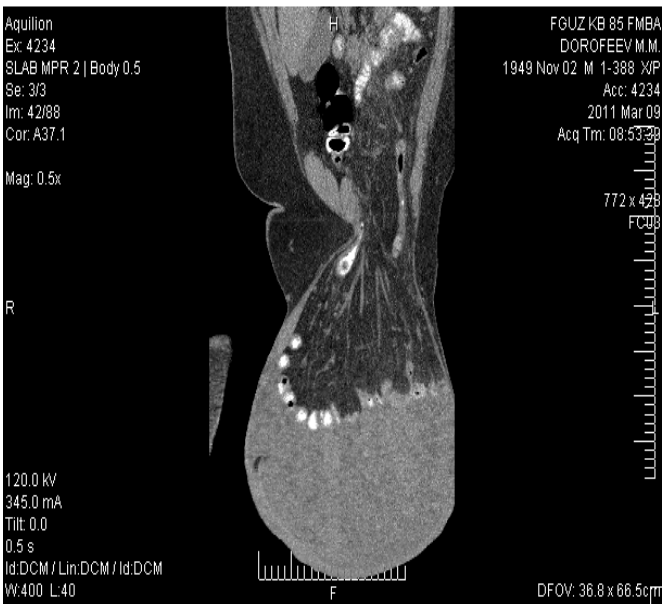

Fig. 3. CT of pelvic organs, frontal section

Рис. 3. КТ органов малого таза, фронтальный срез

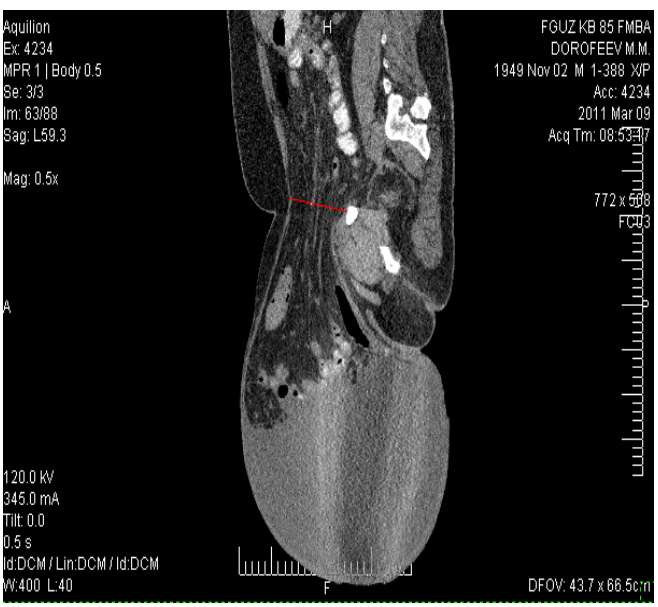

Fig.4. CT of pelvic organs, sagittal section, red line shows hernial gates

Рис. 4. КТ органов малого таза, сагиттальный срез, красной линией показаны грыжевые ворота

On admission, the patients scrotum was drained, 15 liters of transparent serous fluid were evacuated.

From the concomitant pathology, the patient was presented with: erosive gastritis, acute duodenal bulb ulcers (according to EGDS), cholelithiasis (according to ultrasound of the abdominal cavity), diverticulosis of the colon, polyps of the sigmoid colon (according to the data of the colonoscopy). The patient was examined by the function of external respiration, according to which there was a moderate decrease in the ventilation function of the lungs due to the obstructive type.

In preoperative preparation, the patient underwent infusion therapy at a volume of 2.0 liters per day, transfusion of FFP, erythrocyte mass, polyglucin, iron therapy (sorbifer w / m), complex antiulcer therapy (parietet, de-nol), antibacterial therapy Ceftriaxone 2.0, gentamicin 0.08 w / m). Under background therapy, the patient's blood levels were normalized (potassium level was 4.0 mmol / l, iron was 7.5 μmol / l, leukocytes were 8.3 × 109 / L), but moderate anemia with a hemoglobin level of 88 g / l, fever up to 38, 0–38,5 in the evening and 37,0 C in the morning staid.

In 2 weeks after the admission (25.03.19) the patient was operated. By the first step left-side herniotomy was performed. The aponeurosis of the external oblique muscle was dissected (Figure 5). The hernial sac isolated, opened. The dimensions of the hernial sac were 40x30 cm. In the hernial sac, up to 1 liter of clear liquid, it contained the entire small intestine with mesentery, transverse colon with large omentum, and part of the descending intestine (Figures 6, 7).

Resection of large omentum was performed, after which the contents of the hernial sac were put back into the abdominal cavity (Figure 8). Under revision cicatricial changes of the wall of hernial sac and shells of spermatic cord were revealed; to perform a more reliable plastic, decision to resect the left spermatic cord and to remove the left testicle along with the hernial sac was made. The next step was the continuous Vicryl suture thread to restored the integrity of the internal oblique muscle and transverse fascia (Fig. 9).

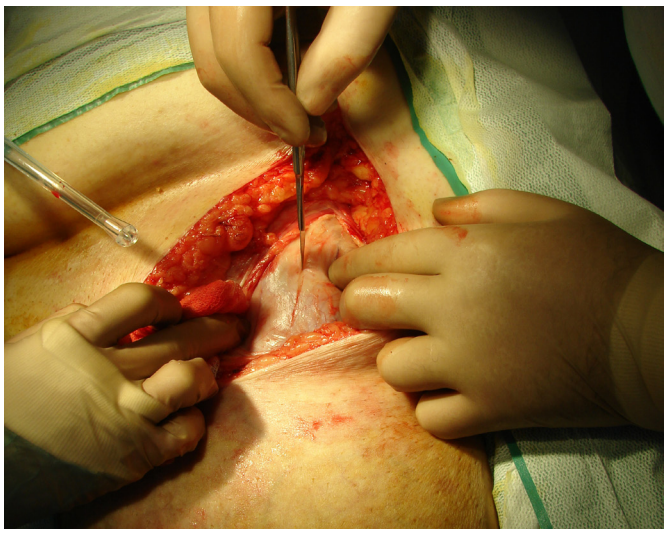

Fig. 5. Access. Skin, hypodermic fat in projection of the inguinal channel is cut

Рис. 5. Доступ. Рассечена кожа, подкожная клетчатка в проекции пахового канала

Fig. 6. Contents of the hernial sac: small intestine loops with mesentery, transverse colon with large omentum, part of the descending intestine.

Рис. 6. Содержимое грыжевого мешка: петли тонкой кишки с брыжейкой, поперечная ободочная кишка с большим сальником, часть нисходящей кишки.

Fig. 7. Isolated hernial sac

Рис. 7. Грыжевой мешок выделен до шейки

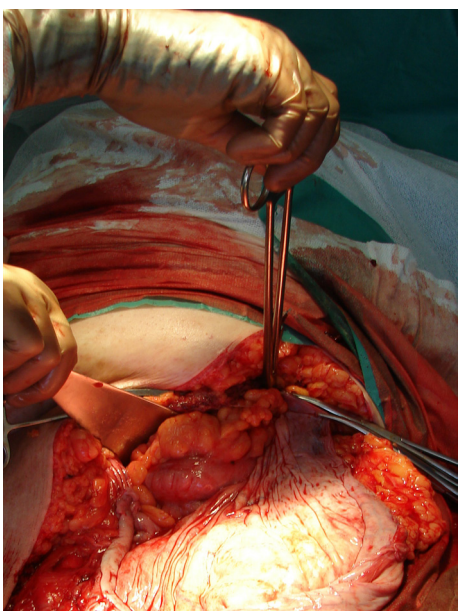

Fig. 8. The contents of the hernial sac inserted into the abdominal cavity (hernial gates 9x8 cm)

Рис. 8. Содержимое грыжевого мешка вправлено в брюшную полость (грыжевые ворота 9х8см)

The back wall plastic of the inguinal canal was performed according to the Liechtenstein technique. As allomaterial a mesh implant of Covidien Parietene with dimensions of 20x20 cm. had been used. The implant was fixed with nodular sutures to the Cooper ligament in the region of the pubic tubercle, the edge of the internal oblique abdominal muscle, the Poupart's ligament. Then the integrity of the aponeurosis of the external oblique muscle was restored above the implant edge-to-edge (Figure 10).

Considering the trophic changes and the presence of skin infiltration on the left half of the scrotum, the latter was resected. The next step was the plastic of the scrotum. The operation was completed by draining the cavity of the scrotum and subcutaneous tissue in the area of the operation wound (Figure 11, 12).

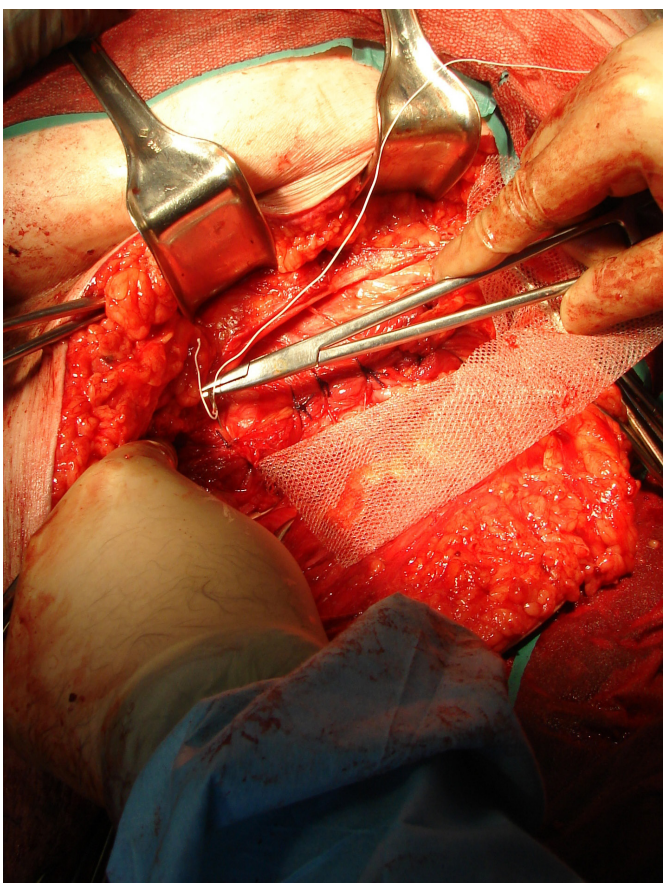

Fig.9. The integrity of the internal oblique muscle and transverse fascia had been restored; the implant in subaponeurotic space

Рис. 9. Восстановлена целостность внутренней косой мышцы и поперечной фасции; имплантат в подапоневротическом пространстве

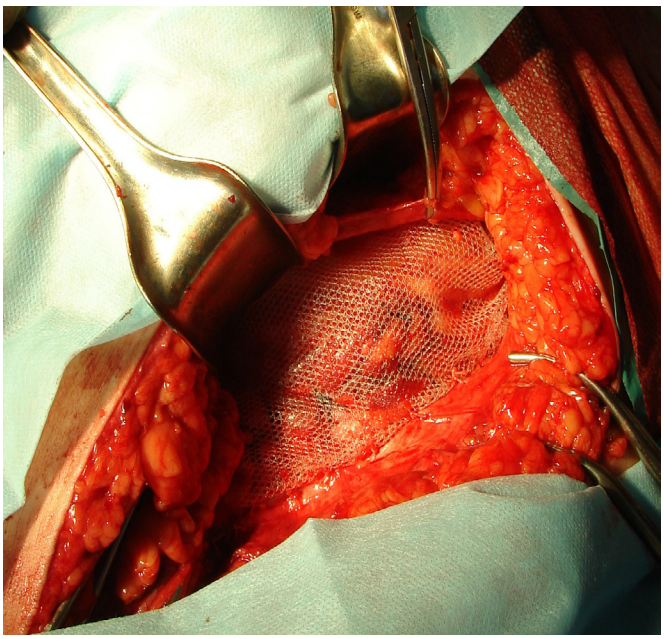

Fig. 10. The implant fixed to the structures of the inguinal canal

Рис. 10. Имплантат фиксирован к структурам пахового канала

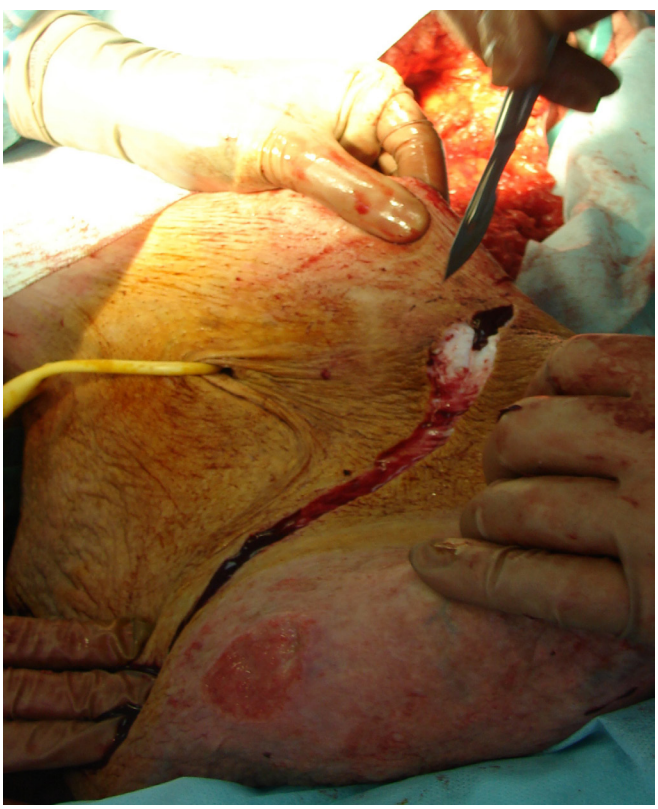

Fig. 11. Resection of the left half of the scrotum.

Рис. 11. Резекция кожи левой половины мошонки.

Fig. 12. Drainage of the scrotum cavity, operation wound; patient after surgery

Рис. 12. Дренирование полости мошонки, операционной раны; вид пациента после завершения операции

In the postoperative period, continued infusion therapy for 3 days, antibiotic therapy, anesthesia with the use of non-steroidal anti-inflammatory drugs took place. Lessons were held on respiratory gymnastics and physiotherapy exercises. The patient on the 4th day after the operation independently got up, moved around the ward and the department. The surgical wound healed by primary tension, the sutures were removed on the 9th day. Analgesics were canceled on the 5th day after the operation. Infectious and other complications in the postoperative period from the wound were absent. There was a moderate swelling of the skin of the scrotum. The patient in a satisfactory condition was discharged from the hospital on the 10th day after the operation (Figure 13).

Fig. 13. Patient on the 6th day after surgery

Рис. 13. Пациент на 6-е сутки после операции

For dynamic control the patient arrived to the clinic in 4 months after operation. The condition was satisfactory; there were no complaints on health. He moved independently, noted weight reduction on 10 kg. Dyspnoea remained up to 20–22 per minute. In the general blood analysis, the stabilized hemoglobin was marked, there was no changes in the blood formula. On examination: the outer inguinal ring hardly passed the finger, the mobility of the back wall of the inguinal canal was practically absent on a coughing thrust.

Therefore, that observation showed correctly chosen tactics of maintaining the patient with giant inguino-scrotal hernia, with full preoperative diagnosis and correction of the concomitant pathology that led to the subsequent successful treatment of the patient and restoration the quality of his life [7]. The patient was suggested to come for examination 1 year after the operation.

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