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The First Experience with Endoscopic Completely Extraperitoneal Hernioplasty of Inguinal Hernias

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INTRODUCTION: Hernias of the anterior abdominal wall in the population occur with a frequency of 4-7%, according to a number of authors [1]. Until now, a large percentage (10-21%) of the number of operations performed in general surgical hospitals falls on hernioplasty, and inguinal hernia repair, in particular, is the most common type of operation in general and abdominal surgery worldwide.

The concept of "laparoscopic transabdominal preperitoneal hernioplasty" (TAPP) was proposed in May 1991 by surgeons from Indianapolis (USA) M. Arregui and R. Nagan. The idea of laparoscopic surgery was to open the peritoneum and carefully dissect the posterior wall of the inguinal region, preperitoneally place a mesh implant to cover all "weak" places, fix the mesh around the perimeter with staples, and sutured the peritoneum over the mesh (peritonization).

The technique of "total extraperitoneal hernioplasty" (TEP) was proposed in 1991 by prof. J. Dulucq (France). To prevent possible complications associated with the introduction of instruments into the abdominal cavity and manipulations in it, the idea was put forward of a completely extraperitoneal method for the treatment of inguinal hernias using laparoscopic instruments, exposing CO₂ insufflation to the preperitoneal space, and fixing a synthetic prosthesis only to the Cooper's ligament with a hernia stapler [2].

A comparative study of the above methods was carried out in the form of numerous randomized controlled trials. For example, in 1994, a multicentre retrospective analysis of 1514 hernioplasties performed, complications and recurrences associated with TAPP and TEP methods was performed. The result of the study was the identification of the fact that a huge percentage of complications is associated with the period of mastering the techniques. With the acquisition of experience in performing operations, the number of complications and relapses has significantly decreased [5].

In 1995, E. L. Felix, C. A. Michas et al. performed a study where 733 TAPP and 382 TEP surgeries were compared. The results showed the advantage of the TEP method [3].

Thus, the TEP technique, despite the complexity of its development, is gaining momentum. Already in 2004, an article by G. Ferzli et al. was published, in which 11 cases of treatment of strangulated inguinal hernias with TEP were presented. The duration of the operation averaged 59 minutes, the hospital stay was 5.4 days. In one case, an injury to the caecum occurred. Thus, the TEP technique is acceptable even in the treatment of strangulated inguinal hernia [4].

OBJECTIVE OF THE STUDY: to improve the results of endoscopic surgical treatment of patients with inguinal hernias.

MATERIALS AND RESEARCH METHODS. On the basis of the 1st Department of Surgical Diseases of the ASMI clinic in 2016, endoscopic TEP surgery was performed in 7 patients with primary inguinal hernias. In 1 of them the hernia was bilateral, in 6 it was unilateral. All patients were men aged 24 to 41 years. The size of the hernial orifice in them ranged from 3 to 7 cm in diameter.

The operation was performed under general anesthesia by a team of two surgeons, using a trocar of an original design with a rubber balloon dissector made of a glove at the exit from the trocar and a special rubber sleeve that sealed the wound. The preparation of the preperitoneal tissue was performed bluntly under visual control with pendulum movements of the dissector moving caudally to the pubic bone and pectineal ligament, laterally to the external iliac and lower epigastric vessels. A non-absorbable mesh prosthesis measuring 10×15 cm was deployed from a clamp inserted through the trocar. It was placed medially from the white line of the abdomen, covering the hernial orifice. The mesh was fixed with 1-2 clips to the pectineal ligament medially from the iliac vessels using a hernial stapler. After checking the correct position of the implant, the trocars were removed under visual control with the simultaneous release of carbon dioxide from the preperitoneal space.



RESULTS AND ITS DISCUSSION. In 2 cases, intraoperatively during the preparation of the parietal sheet of the peritoneum, it was damaged, which led to a partial loss of gas into the peritoneal cavity and to certain inconveniences when manipulating instruments in the preperitoneal space. However, this complication was not an indication for conversion.

The operation time ranged from 50 min. up to 1.5 hours. All patients were discharged from the hospital on the 3rd-4th day after the intervention with the resolution of unlimited physical activity after 8-10 days. In the postoperative period, patients did not require the introduction of narcotic analgesics. The most frequent and typical complications of endoscopic hernioplasty - false cysts of the spermatic cord, which are clinically manifested by the appearance in the projection of the external inguinal ring of a round, painless formation of a tight-elastic consistency, irreducible to the abdominal cavity - were not detected in our observations. Transposition of the mesh graft, leading to an increase in pain or recurrence of inguinal hernias, was also not observed in our observations. One patient had a recurrence of an inguinal hernia on the 9th day after surgery due to incomplete isolation of the hernial sac, which required Liechtenstein hernia repair.

CONCLUSIONS. In the presence of full-fledged material technical equipment, appropriate qualifications of surgeons, TEP of inguinal hernias is an effective and safe method of surgery and can be introduced into everyday surgical practice.

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