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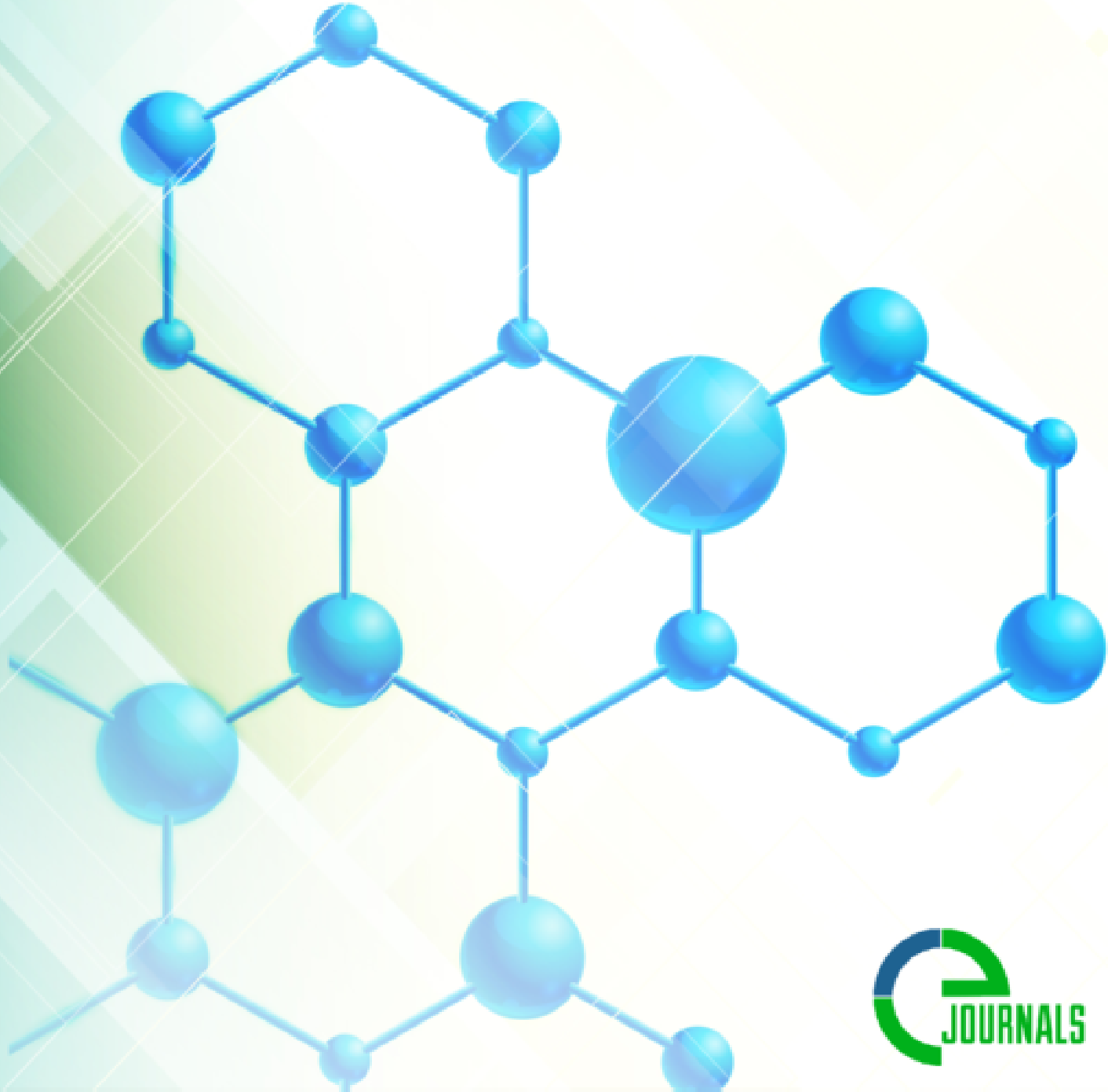

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MULTI-ORGAN SURGERY IN THE EMERGENCY MEDICAL CENTER

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Abstract: Multi-organ operations are performed on two or more organs in one step on about one or more diseases. In the article has been described the case of multi-organ gallbladder (cholecystectomy), inguinal canal (herniotomy), prostate (adenomectomy), and urethra (tunnelisation of the urethra) surgery, held under single anesthesia by different surgeons of relevant specializations. Performing multiple operations on different organs under general anesthesia is considered to be rational in the terms of time saving, low trauma and violations of homeostasis.

Keywords: multi-organ surgery, cholecystectomy, herniotomy, prostate adenomectomy, tunnelisation of the urethra.

Introduction. According to WHO, 20-30% of patients admitted to surgical hospitals, are being detected several diseases requiring surgical treatment [1]. In such situations, most surgeons recognize the expediency of one-stage surgical treatment of various diseases. Modern achievements in surgery, a high level of development of anesthesiology and resuscitation allow performing extensive and complex intervention without a noticeable increase in the risk to the life of patients. Carrying out complex simultaneous operations is one of the ways to develop surgery and increase its efficiency and economy [2,3].

Multiorgan operations are surgical interventions on two or more organs performed in one stage for one or more diseases. These surgical interventions are more often performed by surgeons, oncologists, interpreting them as combined operations [4,5,6].

The advantage of combined operations is that that they not only allow you to save the patient from two and more diseases, but also eliminate the risk of reoperations and possible complications associated with them [7,8].

Performing several operations on different organs through one access under general anesthesia (simultaneous operations) are considered rational in terms of saving time, low trauma, and the least disruption of the homeostasis. However, the implementation of several operations on different organs and systems of the body, observing the principle of multimodality, albeit through different accesses, but during a single anesthesia is also considered rational [4,9].

Clinical case description

Patient G.Kh., 76 years old, was hospitalized for emergency indications on September 26, 2014 in the emergency surgical department of the Samarkand branch of the Republican Research Centre Of Emergency Medicine (SB RRCEM).

Complaints upon admission: to sharp pain in the right subcostal area, nausea, vomiting, dry mouth, difficulty urinating and dribbling of urine, swelling in the left inguinal region, weakness.

Anamnesis: considers himself sick for 4 days, the disease is associated with the eating of fatty foods. Due to increased pain in the right subcostal area and worsening urination, he was delivered to the Samarkand branch of the SB RRCEM by ambulance. In 1994,

a herniotomy was performed for a right-sided inguinal hernia. In 2013 - laparotomy, appendectomy. Over the past 2 years, noted the presence of the left-sided reducible inguinal hernia.

Objectively: the patient's condition is moderate. The skin and visible mucous membranes are pale. In the lungs, vesicular breathing, heart sounds are clear, the rhythm is correct. BP 140/70 mmHg, pulse 80 beats per minute, satisfactory filling and tension. Tongue wet, covered with white coating.The abdomen is symmetrical, participates in the act of breathing. On the anterior abdominal wall along the white line of the abdomen from the symphysis to the navel, an old postoperative scar measuring 20.0x0.5 cm is determined. There is also a postoperative scar measuring 10.0x0.5 cm in the right inguinal region. Pain and muscle stiffness are determined on palpation. Symptoms of Ortner-Grekov, Murphy are positive. The bottom of the gallbladder is palpated, soreness is noted. The liver is not enlarged, the spleen is not palpable. In the left inguinal region, when straining, a swelling appears in the size of 5.0x0, 6 cm, soft-elastic consistency, painless, when pressed, it can be inserted into the abdominal cavity. The area of the kidneys is unchanged, the kidneys are not palpable. Pasternatsky symptom is negative on both sides. Urination is difficult, during the last 2 days he cannot urinate. During catheterization, there is an insurmountable obstruction in the back of the urethra.

Ultrasound: gallbladder 84x47 mm in size, wall thickness - 6 mm, calculus in the gallbladder neck area, choledoch - 6 mm. Urinary bladder - wall thickness 3.5 mm, residual urine volume - 650 ml, prostate gland measures - 61x47x66 mm, volume of the prostate - 92 ml.

Simple blood test: Hb 98.0 g/l; RBC - 3.8 x 10^{12}/l; WBC - 5.4 x 10^{9}/l; band neut. - 2%; neut. - 60%; eoz. - 2%; lymph. - 26%; mon. - 4%; ESR - 11 mm/h.

Biochemical blood test: creatinine - 110.0 µmol/l; urea - 5.6 mmol/l; total bilirubin - 19.3 µmol/l.

Clinical diagnosis: Cholelithiasis. Acute calculous obstructive cholecystitis. Benign prostatic hyperplasia (IPSS24 Bs5 V92 R500. Acute urinary retention). Posterior urethral stricture. Left-sided direct sliding hernia. Atherosclerotic cardiosclerosis.

On October 3, 2014, a multi-organ operation was performed on the gallbladder, inguinal canal, prostate gland and urethra. Anesthesia: general, endotracheal intubation. The duration of the multi-organ operation was 2 hours 15 minutes.

Names of operations and their brief protocols:

1.Laparoscopic cholecystectomy, drainage of the abdominal cavity

A skin incision was made above the umbilicus. A 10 mm trocar was placed and a pneumoperitoneum was applied. A trocar and a laparoscope were introduced. Additional trocars were installed in the right hypochondrium. During revision, the gallbladder is completely enveloped by the omentum major. 5 mm and 10 mm trocars were installed in the epigastrium in typical places. The gallbladder was bluntly separated from the omentum, gallbladder enlarged, tensed, the walls are edematous, a fixed stone was determined in the neck area. The gallbladder was punctured, congestive bile was evacuated. Cystic duct was separated, it's diameter - 4 mm Choledoch was not visualized. A 0/2 clip was applied to the cystic duct and the duct was crossed.A 0/1 clip was applied to the cystic artery and the artery was transected. The gallbladder is isolated from the bed. A cholecystectomy was performed. The gallbladder was removed through an epigastric puncture (Fig. 1). Subhepatic area was processed with spiritus. A drainage tube was put to the gallbladder bed and the tube was brought out through a puncture in the right hypochondrium. Revision of the abdominal cavity and pelvic organs. No other pathology was identified.

2.Herniotomy. In parallel and 2 cm above the inguinal ligament above the hernial protrusion, a skin incision 10 cm long was made, hemostasis. The external inguinal ring

is expanded to 3-4 cm, the inguinal canal is opened, the hernial sac is isolated from the surrounding tissues, and opened. Hernial content is the sigmoid colon (Fig. 2). The hernial sac is completely separated from the elements of the spermatic cord, a purse-string suture is placed from the inside of the hernial sac, tied. The remains of the hernial sac are excised, the stump is immersed into the abdominal cavity. The posterior wall of the inguinal canal was strengthened using the Bassini method.

3.Open transvesical prostate adenomectomy. An incision was made through the skin, subcutaneous fat and aponeurosis above the bladder area along the midline, 7 cm long. Hemostasis. The muscles are spread apart, the anterior wall of the bladder is exposed. The bladder is enlarged in volume, tense, the transitional fold of peritoneum is moved upwards. The anterior wall of the bladder was taken on holders, the bladder was opened, about 600 ml of urine was released. The revision revealed endovesical growth of prostate adenoma. Subcapsular enucleation of prostate adenoma was performed (Fig. 3), hemostasis has been achieved by tamponade of the adenoma bed. Cystostomy tube was placed into the bladder cavity through the operating wound, 2 urethral tubes for washing the bladder were passed through the urethra.

4.Tunnelization of the urethra. When trying to pass with the catheter through the urethra, an obstruction was noted in the posterior urethra. With the help of a bougie guide, splinting of the posterior part of the urethra was performed. Foley catheter (18 Ch) was placed in the bladder. The bladder wound was sutured. Layered wound closure. Sutures on the skin.

1 day after the operation: the general condition of the patient is relatively satisfactory. BP 110/70 mm Hg, pulse 88 beats per 1 min. Simple blood test: Hb - 76.0 g/l; RBC 3.0 x 10^{12}/l; WBC - 12.0 x 10^{9}/l; band neut. - 5%; segm. neut. - 70%; eoz. - 5%; lymph. - 28%; mon. - 4%; ESR - 20 mm/h.

Urinalysis: transparency - clear/transparent, color - light red, protein - 0.12 g/l; leuc. - numerous, erythr. - numerous. The bandages were slightly soaked. Tongue moist, slightly coated with white coating.The abdomen is symmetrical, participates in the act of breathing, is not swollen, soft on palpation, painful in the area of the postoperative wound. Peritoneal symptoms are not defined. About 20-30 ml of serous fluid was released from the right subhepatic region through drainage. The bladder is constantly washed with a solution of furacillin. The washing liquid is slightly colored with blood. The gases haven't gone yet.

Postoperative course without features. The drainage tube from the abdominal cavity was removed on the 3rd day after the operation. The tampon was removed from the adenoma bed on the 3rd day. The cystostomy tube was removed on the 5th day. The urethral drainage tubes were removed on the 12th day, after which the patient recovered urination through the natural urinary tract. The wounds healed by primary intention.

When viewed after 2 months, the general condition of the patient is satisfactory, the state of health has improved. Urination through the natural urinary tract, free, 3-4 times a day.

Fig. 1. Gross specimen: gallbladder.

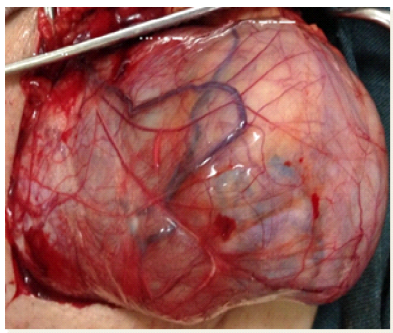

Fig. 2. Hernial sac with sigmoid colon.

Fig. 3. Gross specimen: adenomatous nodes

Conclusions. Compliance with the principle of multi-organ operations, in our case - cholecystectomy, hernia repair, prostate adenomectomy and urethral tunnelization, helps to simplify the entire operation performed under one anesthesia, reduce the time spent in the hospital and financial costs.

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