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In this section we conclude publication of the articles submitted to the journal by the participants of IV World Endoscopy Doctors Congress, which took place in Kiev at the beginning of October 2012.

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OUR EXPERIENCE OF LAPAROSCOPIC AND ENDOVASCULAR OPERATIONS IN PATIENTS WITH VARICOCELE

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НАШ ОПЫТ ЛАПАРОСКОПИЧЕСКИХ И РЕНТГЕНЭНДОВАСКУЛЯРНЫХ ОПЕРАТИВНЫХ ВМЕШАТЕЛЬСТВ ПРИ ВАРИКОЦЕЛЕ

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Нами проанализированы результаты хирургического лечения 43 пациентов с варикоцеле: 15 больным проведена лапароскопическая перевязка вен семенного канатика, 4 — рентген-эндоваскулярная эмболизация вены левого яичка, 24 — операция Иванисевича. У всех больных, которым проведена лапароскопическая операция, получены отличные и хорошие результаты.

Ключевые слова: варикоцеле, лапароскопия, оперативные вмешательства, лечение, результаты.

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Introduction. Varicocele is varicose veins of the spermatic cord. It is a widespread disease found in 16.2% of patients. Combination of primary varicocele and infertility is observed in 35% and secondary infertility and varicocele — in 80%. The positive effect of surgical treatment on spermatogenesis in patients with varicocele is noted by many authors. Improving spermatopoietic testicular function up to a 5-year period of the disease is much better than over 5 years.

Materials and methods. The study included 43 patients operated on in the clinic of general surgery with aftercare of the Zaporozhye State Medical University on the basis of the Zaporozhye Municipal Clinical Hospital of emergency care, with the diagnosis of varicocele on the left during the period 2009–2011. The age of patients was 16–31 years, mean age was 19.5 years. 24 (55.81%) patients (group 1) underwent conventional Ivanissevich surgery. 19 (44.19%) patients (group 2) were performed minimally invasive surgery interventions (15 (78.95%) — laparoscopic ligation of the veins, 4 (21.05%) — endovascular vein embolization of the left testicle).

Results and discussion. The results of our surgical treatment of varicocele were excellent and good (92.3%). In group 1 patients, the average stay in the hospital after surgery was 6.7 bed-days, in group 2 — 1.6 bed-days. The decrease or disappearance of varicocele within the first day after surgery was observed in 94.6% of patients. However, the final therapeutic effect on the disappearance of the varices manifested in 3–6 months. Within the first month the varicocele disappeared in 99.3% of patients. The number of postoperative complications was 0% in the group 1, and 0.33% in the group 2 (1 patient in the late postoperative period was noted the development of hydrocephalus of mucous tunics of the left testicle).

Conclusion. Among all the operations for varicocele directed at the intersection of the internal spermatic vein, endoscopic surgery is the most progressive. It is less traumatic to the patient, but due



to the fact that the testicular vein is easy to look all over, the relapse rate cut to a minimum. In addition, endoscopic surgery is the only operation in which a one-stage treatment of bilateral varicocele is possible. For all other methods it requires a separate transaction for each part. In addition, endoscopic surgery is the most optimal method for the treatment of recurrent varicocele. This is associated with an ability to observe spermatic vein almost in its entirety during the operation. The use of laparoscopic excision of the internal spermatic vein for varicocele has allowed us to significantly reduce the time of hospitalisation and duration of surgery, minimizing risk of postoperative complications, decrease the number of dressings used at the postoperative period.

Key words: varicocele, laparoscopy, surgery, treatment, results.

Introduction

Varicocele is varicose veins of the spermatic cord. It is a widespread disease, found in 16.2% of patients. Combination of primary varicocele and infertility is observed in 35% and secondary infertility and varicocele in 80%. The positive effect of surgical treatment on spermatogenesis in patients with varicocele is noted by many authors. Improving spermatopoietic testicular function up to 5-year period of the disease is much better than over 5 years.

It is obvious, the treatment of varicocele can be only surgical. The main objective of the implementation of surgery is to prevent the pathological retrograde venous shunt in the veins of the testicle. In modern medicine, there are numerous methods suggested for the surgical treatment of diseases, but 4 of them are currently used.

1. Retroperitoneal ligation and intersection of spermatic veins on the level of the iliac region (Ivanissevich operation — the intersection of the vein itself, and Palomo operation — the intersection of the veins together with the artery).

2. Laparoscopic clipping or ligation of the left testicular vein.

3. Endovascular occlusion of the spermatic vein.

4. Subinguinal microsurgical varicocelectomy.

All these operations have both advantages and disadvantages. Let us examine them in details. The most common is Ivanissevich operation. Assuming that the cause of varicose is not only testicular vein reflux, but also enhanced arterial blood flow to the testis by testicular artery, A. Pa-

lomo (1949) suggested binding together the vein and artery. According to Palomo operation spermatic vein is ligated together with the testicular artery, accompanying it as a thin trunk. With the widespread introduction of endoscopic technique in clinical practice, the method of laparoscopic ligation of the internal spermatic vein has been widely used recently.

Purpose

To inform on the benefits of surgical treatment of varicocele by laparoscopic excision of the internal spermatic vein over traditional methods of surgical treatment.

Materials and Methods

The study included 43 patients operated on in the clinic of general surgery with aftercare of the Zaporozhye State Medical University on the basis of the Zaporozhye Municipal Clinical Hospital of emergency care, with the diagnosis of varicocele on the left during the period 2009–2011. The age of patients was 16–31 years, mean age was 19.5 years. 24 (55.81%) patients (group 1) underwent conventional Ivanissevich surgery. 19 (44.19%) patients (group 2) were performed minimally invasive surgery interventions, 15 (78.95%) — laparoscopic ligation of the veins, 4 (21.05%) — endovascular vein embolization of the left testicle. Ivanissevich operation was performed by an oblique incision in the left iliac region (similar to Dyakonov — Volkovych approach for appendectomy) from the intersection of the skin, subcutaneous fat, aponeurosis of external oblique, internal oblique and transverse

abdominal muscles and intra-peritoneal fascia. In the medial direction peritoneum peeled, in the retroperitoneum the testicular vein was picked out, ligated and transected. The wound was sutured in layers.

Laparoscopic surgery was performed using endotracheal anesthesia in the Trendelenburg position with 15° raised left side for the displacement of the abdominal cavity. The surgeon was located on the right, the assistant — on the left. A monitor or monitors were installed at the foot end of the table. Laparoscopic surgery was executed using three (rare two) sites for trocars introduction into the abdominal cavity. 10 mm above the navel a 5 mm incision was made and Veress needle was injected to fill the abdomen with carbon dioxide under a pressure not exceeding 10 mm Hg. The level of CO₂ pressure in the abdominal cavity depended on the constitution, length and weight of the patient's body. After creating pneumoperitoneum the needle was removed and the wound was extended and trocar was injected with diameter of 10 or 5 mm for laparoscope with an overview of 45°. Subsequently, the pressure and gas supply into the abdominal cavity backed insufflator automatically connected to the laparoscope trocar or introduction of instruments. After the endoscopic view of the abdominal cavity and determination of the topography of the testicular vein into the right iliac region at the 30–40 mm below the umbilicus and laterally under the control of the laparoscope in the avascular zone they ripped the skin and injected trocar with diameter of 10 or 5 mm for putting endoscopic instruments (dissec-



tors, scissors, clippers, clamps etc.).

The third trocar of 5 mm in diameter was injected at 20 mm below the navel on the left adrectal line. The second and third trocars were introduced under optical control, which eliminates the risk of damage to the organs of the abdominal cavity. Then sharply with coagulation or without it 30–50 mm above the internal inguinal ring they captured the peritoneum, pulled up and cut over the seminal vein. It was often necessary to dissect intraperitoneal adhesions to release the sigmoid colon. Blunt and sharp with help of dissector testicular vein was separated from the artery (if determined) and the surrounding tissues. If possible, all the trunks of the spermatic vein were isolated as a unit. After mobilization the vein over 10–20 mm was captured with a clip and delayed a few anteriorly in order to facilitate the allocation of the spermatic vein adjacent to the muscle wall. Under the seminal vein a tool was injected for better visualization and separation from surrounding tissue. An important step was release of the spermatic artery, which in most cases is visualized medially to the vein. Then, using a special tool (a clip-applicator) at a distance of 25 mm, 2, or very rarely 4 titanium clips were imposed on the vein or ligation was made. Between clips or ligatures the vein was excised along 10–15 mm. One should release the seminal vein from lymph vessels, so that they do not fall under the clip or ligature. Ligation of lymphatic vessels may cause hydrocele. Another important factor is the skilful use of coagulation. Spermatic vein or its stems need to release and lift trunks in order to freely, without touching the lymph vessels to make coagulation. Careful release of venous trunks helps to avoid of ligation of lymphatic vessels. When you select the spermatic vein you should remember that the lymph vessels are main-

ly lateral and locate under the vein. The testicular artery passes medially and often, if the manipulation is performed on 4–6 cm above the internal inguinal ring, remains intact. With gaining experience, we have carried out operations with a modified technique.

The essence of these changes is that instead of a 10 mm trocar, we injected a 5 mm one for laparoscope introduction, and instead of 10 mm trocar for clips applicator we injected 5 mm ones for the manipulators and tying knots on the seminal vein. Thus, we abandoned overlaying clips, and conducted only ligation of the spermatic vein with two or four ligatures (vikril 1/0 or nylon) and excision between them. The operative time ranged from 7 to 20 min.

Endovascular surgery was performed under radiological control via a large vein puncture in the thigh — the femoral vein. Through the puncture of a vein, a long flexible instrument was injected — catheter, and under the X-rays they penetrated into the inferior vena cava and then into the left renal vein. After that, the end of the catheter was performed at the mouth of the left testicular vein. To close the lumen of the vein on the catheter a special spiral was injected in the vein.

Results and Discussion

The results of our surgical treatment of varicocele were excellent and good (92.3%). In group 1 patients, the average stay in the hospital after surgery was 6.7 bed-days, in group 2 — 1.6 bed-days. At operation performed by laparoscopic technique in most cases the patient did not need pain medication in the postoperative period. They could walk on the evening of surgery. Most of the patients could go home the same evening or the next day. The normal activity of the patient recovered on the second day. With endovascular surgical intervention without incision, stitches and scars there is no need in general anesthe-

sia, the period of stay in the hospital does not exceed one day, after which the patient conducted a normal active life.

We evaluated results of laparoscopic treatment of varicocele on the basis of inspection, palpation and Doppler ultrasound. The main criterion for evaluating the effectiveness of the operation was disappearance or reduction of varicocele. Inspection and palpation were made at the first day and 2–4 months after surgery. Re-examination of all the patients was prescribed in 2 months. But not all patients were able to come in due time. Some of them were re-examined in 6 and 12 months and at a later date after the surgery.

The decrease or disappearance of varicocele within the first day after surgery was observed in 94.6% of patients. However, the final therapeutic effect on the disappearance of the varices manifested in 3–6 months. Within the first month the varicocele disappeared in 99.3% of patients. The number of postoperative complications was 0% in the group 2, and 0.33% in the group 1 (1 patient in the late postoperative period was noted the development of hydrocephalus of mucous tunics of the left testicle). The economic calculations of recent years have shown that the laparoscopic approach by total parameters (operation cost, efficiency, number of hospital stay, recovery time, etc.) is much cheaper than the open and endovascular operations.

As with any surgery, surgery for varicocele has its drawbacks. Basically, it is inefficient operation, when the treatment effect does not occur, or a relapse of the disease. According to many authors who have studied the problem of recurrent varicocele in detail, the main reason for this situation is the presence of additional veins that connect the pampiniform plexus with other large veins, most often with the external iliac vein. Most often this is a small extra vein collat-



erals, which are then expanded. Sometimes the recurrence occurs at the expense of the outflow of the so-called cremasteric vein. Such a situation can use advantage of endoscopic surgery, during which you can simultaneously block both testicular vein and the cremasteric vein.

Conclusion

Among all the operations for varicocele directed at the intersection of the internal spermatic vein, endoscopic surgery is the most progressive. It is less traumatic to the patient, but due to the fact that the testicular vein is easy to look all over, the relapse rate cut to a minimum. In addition, endoscopic surgery is the

only operation in which one-stage treatment of bilateral varicocele is possible. For all other methods it requires a separate transaction for each part. In addition, endoscopic surgery is the most optimal method of operation for the treatment of recurrent varicocele. This is associated with an ability to observe spermatic vein almost in its entirety during the operation. The use of laparoscopic excision of the internal spermatic vein for varicocele has allowed us to significantly reduce the time of hospitalisation and duration of surgery, minimizing risk of postoperative complications, decrease the number of dressings used at the postoperative period.

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MESH APPLICATION IN GYNECOLOGY: PROS AND CONS

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ПРИМЕНЕНИЕ СЕТЧАТЫХ АЛЛОТРАНСПЛАНТАТОВ В ГИНЕКОЛОГИИ: ЗА И ПРОТИВ

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Авторы попытались обобщить собственный опыт и имеющиеся данные исследований по использованию сетчатых аллотрансплантатов в хирургической гинекологии.

Полученные результаты мета-анализа данных исследований не отвечают на вопрос, какой вариант оперативных вмешательств лучше — с использованием аллотрансплантатов или без них. Применение полимерных сеток уменьшает частоту рецидивов, однако связано с появлением более серьезных осложнений, для устранения которых зачастую требуется выполнение более инвазивных хирургических вмешательств, чем операции по их установке.

В настоящее время недостаточно отдаленных результатов наблюдения за больными, перенесшими оперативное лечение с использованием сетчатых аллотрансплантатов.

Ключевые слова: сетчатые аллотрансплантаты, гинекология, осложнения, рецидивы.

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MESH APPLICATION IN GYNECOLOGY: PROS AND CONS

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In this article we try to summarize our experience and available research data on mesh surgery in gynecology.

Materials and methods. We had performed search for available sources of information such as Pubmed and Cochrane Internet databases to reveal currently available evidence based data on advantages and disadvantages of using mesh in gynecological surgery.

Results. Existing meta-analyses of research data do not answer the question what technique type is better: with or without mesh. Most of them agree on the following points: adoption of mesh decreases recurrence rate; mesh is associated with more serious complications; surgery should be performed by experienced surgeon that specializes in pelvic surgery; there are not enough long-term research data on meshes.

Conclusion. Currently there is no final decision concerning place of mesh in gynecological surgery. Like any surgical technique it has specific advantages and drawbacks. More realistic indications for adoption of this kind of techniques are only being formed. Only future will reveal the real value of meshes application in urogynecological surgery.

Key words: mesh, gynecology, complication, recurrence.

