

# IMPORTANCE OF ENDOVIDEOLAPAROSCOPIC SURGERY IN THE TREATMENT OF VARICOCELE IN ADOLESCENT CHILDREN

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**Abstract.** *Improvement of the videolaparoscopic method of treatment of varicocele in adolescent urology is given importance to evaluation of minimally invasive methods. Different surgical methods of minimally invasive varicocele treatment are also compared. In each case, a differential approach is required when deciding on the choice of surgical treatment. If patients have bilateral varicocele, videolaparoscopic surgery is performed at the same time. Videolaparoscopic operations in the treatment of varicocele allow to reduce the number of postoperative complications and increase the results of treatment. The choice of surgical intervention for varicocele in adolescents should be determined not only by its clinical effect, but also by economic efficiency.*

**Keywords:** *varicocele, videolaparoscopy, surgical methods.*

**Introduction.** Varicocele is a pathological expansion of testicular veins caused by retrograde venous reflux. Varicocele most often develops in the left ventricle, but can be observed on both sides, and in rare cases it is only on the right side. Due to the fact that it is the most common cause of male infertility, this disease is one of the most important problems. About 15% of men of puberty age (over 11 years) have varicocele. The highest prevalence of varicocele (69.9%) is observed in patients aged 14-16 years, and the disease is alarming because spermatogenesis disorders are found in the majority of adolescents with varicocele.

In the pathogenesis of varicose veins of the testicular system, the reverse return of blood is important, due to the congenital absence of valves in the testicular vein, it is caused by venous hypertension as a result of the pressure of the renal veins (primary varicocele). Sometimes it can also be caused by narrowing of the left renal vein (secondary varicocele), or arterio-venous fistulas and also by retroperitoneal fibrosis [1].

It is important to note that among the causes of male infertility, varicocele is observed in 39% to 50% [2,6], and in the prevention of sub- and infertility, identification and treatment of varicocele is important from a social point of view. In addition, 20-90% of patients with varicocele have spermatogenesis disorders [6, 7]. Bilateral varicocele causes significant negative changes in the spermogram up to azoospermia and is one of the unfavorable prognostic factors in terms of the development of infertility in men. [1, 5, 7].

**The purpose of the study:** In children using endovideolaparoscopic surgical procedures, improving modern treatment tactics of aricocele disease.

**Material and inspection methods:** Republic Children's minimally invasive and endovisual scientific-practical center In 2012-2023, the methods of surgical treatment of 195 children were analyzed. Yu.F. Isakov and A.P. Erokhin classifications were used to determine varicocele levels.

Diagnosing varicocele mainly included traditional examinations. (Objective examination, complaints, palpation of the vagina, functional tests, ejaculate analysis and dopplerography, venography, contact thermography and computer tomography methods are used). As a result, thanks to the use of modern research methods, the detection rate of varicocele has increased to 30%. Most often, varicocele disease occurs in adolescents aged 10 to 17 years. The frequency of the disease in adolescents varies with age: in preschool age it does not exceed 0.12%, in school-aged boys it is from 2.2% to 10%, and among conscripts from 2.3% to 25%.

**Table #1**

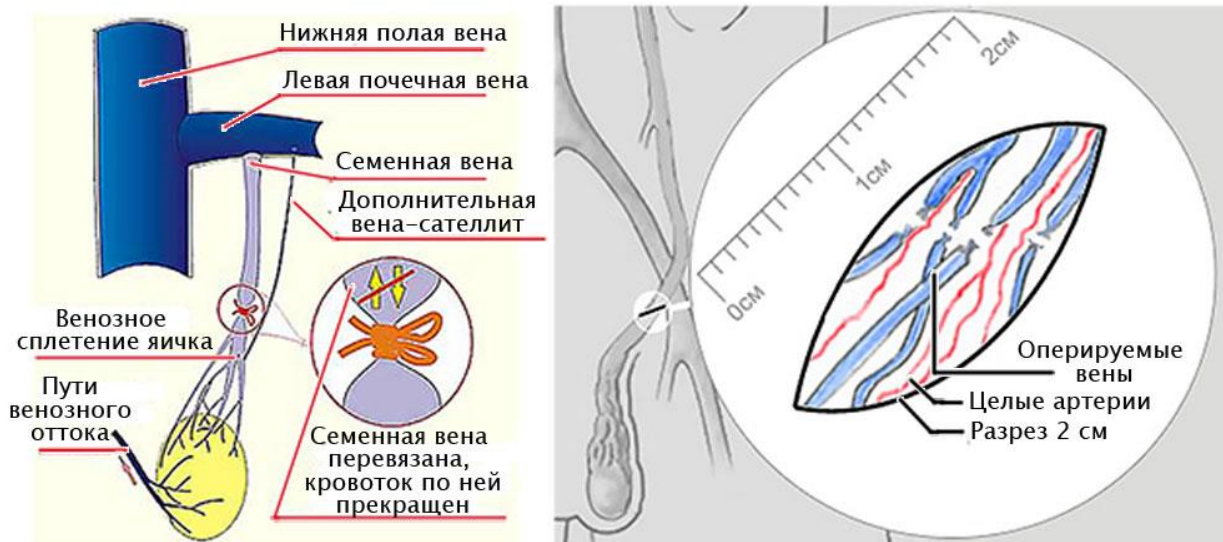
**Distribution of patients by age and grade (n-195).**

Degrees of varicocele	10-14 years old	15-17 years old	Total
<b>Left sided level 1</b>	11 (5.6%)	52(26.7%)	63(32.3%)
<b>Left side level</b>	95.4 (96%)		
<b>Level 3 left sided</b>	28(14.3%)	47(24.2%)	75(38.5%)
<b>Bilateral level 2- 3</b>	2(1.0%)	7(3.6%)	9(4.6%)
<b>Total</b>	58(29.6%)	137(70.4%)	195(100%)

With the help of UTT dopplerography, the diagnosis was clarified based on the varicose expansion of the left testicular veins and its levels. In 96% of cases, varicocele occurs on the left side. Bilateral varicocele was found in 9 (4.6%) patients during UTT dopplerography examination. Their average age was  $13.6 \pm 0.8$ .

Patients were divided into three groups. The first group consisted of 67 patients who were operated on by the traditional Ivanisevich method, and 15 patients by the Marmar method.

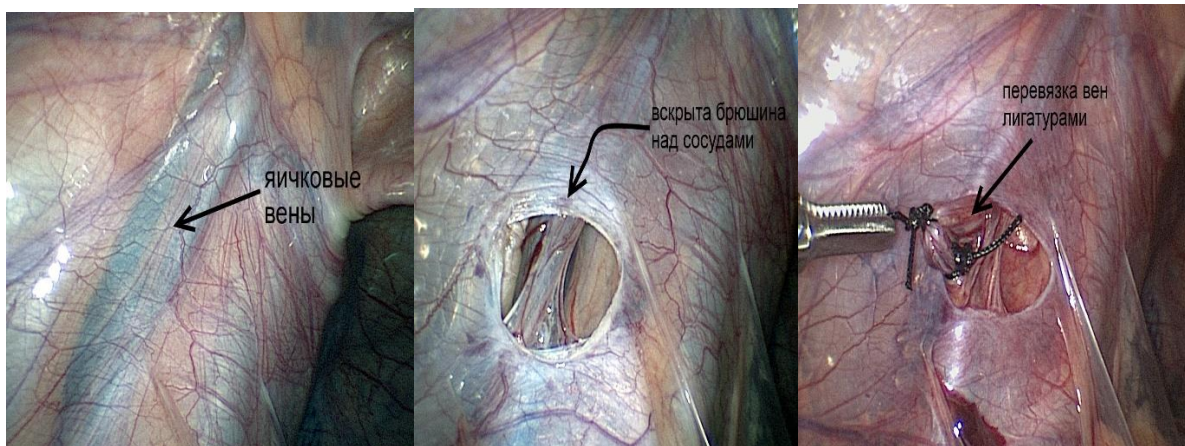
### Метод Иванисевича



#### **Method of operation in the Marble method**

In the second group, 113 patients underwent endovideolaparoscopic surgery. Carl Storz fitting equipment was used in these operations.

**Results:** Surgical procedures performed by traditional methods were  $25 \pm 5$  minutes on average, surgical procedures performed by endovideolaparoscopic method were  $20 \pm 4$  minutes on average. No complications were observed in endovideolaparoscopic surgical operations in the pre- and post-operative periods, only performed in the traditional way.



### Laparoscopic varicocelectomy

Varicocele recurrence was observed in 1 patient, prepared for planned operation and eliminated by means of videolaparoscopic surgery. After surgery performed by the Marmar method, he presented with a non-adherent testicular rupture 3 months later. After thorough examinations, traditional Winkelmann surgery was performed. 3 days after the operation, the patient was discharged for outpatient treatment in a satisfactory condition. In order to identify pain syndromes in patients, questionnaires were created and distributed to patients before the discharge epicrisis. Pain syndromes were evaluated in patients on the 3rd and 7th days and in the first months after the operation. It became clear that pain syndromes were observed more often in children of the 1st and 2nd groups who underwent surgical procedures in traditional methods, and in the patients of the second group no pain syndromes were observed. All of the patients who underwent videolaparoscopic surgery had a mild postoperative period, were quickly activated, and were discharged to outpatient treatment in 2-3 days.

**Summary:** When varicocele disease in children is performed videolaparoscopically, it reduces surgical trauma, reduces the risk of formation of rough postoperative scars, reduces the time spent on surgery and the recovery of the patient's physical activity and bed days, improves the patient's quality of life, prevents infertility and leaves a good cosmetic effect.

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