

## INTRODUCTION OF PATIENTS WITH CYSTIC OCCURRENCES IN ADOLESCENT AGE.

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Testicular cystic formations in adolescents are a rare but clinically significant pathology that requires an individual approach to diagnosis and treatment. This paper analyzes modern scientific data and clinical observations regarding the management of adolescents with this pathology. The main attention is paid to the use of ultrasound as the main method of diagnosis and the determination of criteria for choosing between conservative treatment and surgical intervention. The results of the study confirm that dynamic observation is effective in most cases, while surgical treatment is required only with pronounced symptoms or a high risk of complications. The work highlights the need for further study of this issue in order to develop unified patient management protocols.

**Keywords.** Testicular cystic formations, adolescence, diagnosis, ultrasound, conservative treatment, surgery, epididymal cyst, spermatocele, management tactics, complications.

### Introduction.

Testicular cystic formations in adolescents are benign neoplasms that occur in the tissues of the testicle or its epididymis. Among the most common types of such formations are epididymal cysts and spermatocele. These conditions are often asymptomatic, but in some cases they can cause pain, discomfort or aesthetic anxiety.

This topic becomes especially important in adolescence, since it is during this period that the active physiological development of the reproductive system takes place. Incorrectly selected diagnostic or treatment tactics can lead to adverse consequences, including impaired reproductive function or the development of psychological problems in the patient. Modern diagnostic methods such as ultrasound and the growing possibilities of minimally invasive surgery can significantly improve treatment outcomes. However, there are still no uniform standards for the management of patients with testicular cystic formations, which makes it difficult to choose the optimal tactics in each case.

The purpose of this study is to analyze modern data and methods used for the diagnosis, treatment and follow-up of adolescent patients with testicular cystic formations, as well as to identify the most effective approaches to their management.

### **Materials and methods.**

To conduct the study, materials from various sources were used, including the international databases of scientific publications Google Scholar, Scopus and PubMed. The focus has been on articles and reviews published over the past 10 years to ensure that the scientific base is relevant and up-to-date. Materials related to the epidemiology, pathogenesis, methods of diagnosis and treatment of testicular cystic formations in adolescents were studied.

As part of the clinical analysis, the data of medical records of adolescents who sought medical care for testicular cystic formations were analyzed. The study covered the period from 2020 to 2024 and included information on more than 100 patients from several multidisciplinary medical centers. Particular attention was paid to data on anamnesis, clinical manifestations, diagnostic results and treatment tactics.

Diagnostic measures included ultrasound (ultrasound) as the main method of visualization of cystic formations. Ultrasound was used to assess the size, structure, location and nature of cystic changes, as well as to exclude other pathologies. Laboratory tests were carried out in cases of suspected inflammatory or infectious processes.

Treatment of patients varied depending on the size of the cysts, the presence of symptoms, and the risk of complications. In most cases (70%), dynamic observation was carried out with periodic ultrasound examinations to monitor the state of the formation. In patients with severe symptoms, large cysts, or a high risk of complications, surgery has been used. The main method of surgical treatment involved minimally invasive approaches such as aspiration of the cyst contents or its complete removal.

The data obtained were processed using statistical analysis methods. A comparative analysis of the effectiveness of various treatment tactics was carried out, as well as an assessment of the risks of complications and the likelihood of recurrence of cystic formations. All stages of the study were carried out in accordance with ethical standards and approved by the local ethics committee of medical institutions.

The approach to the study included a combination of theoretical analysis of scientific literature and practical clinical experience, which made it possible to obtain objective and clinically significant results.

### **Results.**

As a result of the study, it was revealed that testicular cystic formations in adolescents are most often benign and asymptomatic. Analysis of medical records showed that in most cases (about 70%) patients sought medical help due to the

accidental discovery of cysts during a preventive examination or due to parental concern. In the remaining 30% of patients, the main reasons for referrals were pain, discomfort, or enlargement of the scrotum.

Diagnostic measures confirmed the high informative value of ultrasound examination (ultrasound). Ultrasound made it possible not only to accurately determine the size, localization and structure of the formation, but also to exclude other possible pathologies, such as varicocele, hydrocele or testicular tumors. Laboratory studies in most cases did not reveal abnormalities, which confirmed the benign nature of cystic formations.

When evaluating treatment tactics, it was found that dynamic observation is effective in cases of asymptomatic cysts. Patients under observation underwent regular ultrasound examinations, which confirmed the absence of cystic growth or their regression. Only 5% of patients initially followed up required follow-up surgery due to progression of symptoms or increase in cyst size.

Surgical treatment was performed in 30% of patients, mainly with symptomatic or large cysts. Minimally invasive methods, such as aspiration of the contents or complete removal of the cyst, have been shown to be highly effective. In 95% of patients after surgery, no recurrences or complications were noted. Only 5% of patients experienced minor postoperative complications, such as swelling or short-term pain, which were successfully managed by conservative therapy.

The overall analysis of the results demonstrated that the right treatment tactics can achieve a high level of patient and parental satisfaction, minimize the risk of complications and ensure the preservation of reproductive function. These findings highlight the importance of treating each patient individually, taking into account the age, size of the formation, clinical manifestations, and the wishes of the patient or their parents.

### **Conclusions.**

The study showed that testicular cystic formations in adolescents are benign conditions that in most cases do not require active intervention. The main diagnostic method is ultrasound, which is highly accurate and safe, allowing you to differentiate cystic formations from other pathologies of the scrotum. Dynamic observation is recommended for patients with an asymptomatic course of the disease, which avoids unnecessary surgical interventions.

Surgical treatment is justified only in the presence of symptoms, significant cysts or their rapid enlargement, as well as in the presence of psychological discomfort in the patient. Minimally invasive surgical techniques have demonstrated high efficacy and low risk of complications, making these approaches preferable in adolescence.

An individual approach to the choice of treatment tactics is of particular importance. It should take into account the clinical manifestations, the age of the

patient, the features of the anatomy and reproductive plans in the future. An important aspect is also the psychological support of adolescents and their parents, which helps to reduce the level of anxiety associated with this pathology.

The results of the study emphasize the need for further study of the problem of testicular cystic formations in adolescents, including large-scale multicenter studies. This will allow the development of uniform standards for diagnosis, treatment and monitoring, which, in turn, will ensure more effective and safe management of patients with this pathology.

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