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IMPROVING THE DIAGNOSIS AND SURGICAL TREATMENT OF ACUTE TESTICULAR DISEASES IN CHILDREN

Resume: Until now, there is no consensus regarding the tactics for acute diseases of the scrotal organs in children. Acute diseases of the testicle, epididymis and spermatic cord are one of the most dangerous situations for a male child.

The combination of all acute diseases of the scrotum organs with a single term OZOM is explained by the similarity of their clinical picture during the first 6-12 hours and the difficulty of differential diagnosis.

Key words: testicles, pediatric age, surgical treatment, diagnostics.

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СОВЕРШЕНСТВОВАНИЕ ДИАГНОСТИКИ И ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ОСТРЫХ ЗАБОЛЕВАНИЙ ЯИЧЕК У ДЕТЕЙ

Резюме: До настоящего времени не существует единого мнения относительно тактики при острых заболеваниях органов мошонки у детей. Острые заболевания яичка, придатка и семенного канатика представляют собой одну из самых опасных ситуаций для ребенка мужского пола.

Объединение всех острых заболеваний органов мошонки единым термином ОЗОМ объясняется схожестью их клинической картины в течение первых 6-12 часов и трудностью дифференциальной диагностики.

Ключевые слова: яичка, детской возраст, хирургическая лечения, диагностика.

Introduction. The issues of the effectiveness of the treatment of acute testicular diseases in children are relevant to date [5,9]. Traditional diagnostic methods (examination, palpation, laboratory diagnostics) in some cases are not informative enough to establish an accurate diagnosis [2,8]. Modern methods of instrumental diagnosis of scrotal organs are limited in the examination of children due to a number of their negative sides[1,4]. The use of the ultrasound method allows us to obtain comprehensive information about the nature of pathological changes in the organs of the scrotum. At the same time, in the works devoted to the use of the ultrasound method in the study of scrotal organs, only certain issues of diagnosis of certain nosological units in adult patients are considered [3,7].

To date, echographic criteria for the diagnosis of acute testicular diseases in children have not been developed, the accepted surgical tactics require clarification, and there is no data on dynamic follow-up in the postoperative period[6].

Thus, it is of interest to study the issues of ultrasound diagnosis of acute testicular diseases and to develop a differentiated approach to the treatment of children with this nosology.

The purpose of the study. To evaluate modern diagnostic methods, tactics and long-term results of surgical treatment of acute respiratory viral infections in children and to develop pathogenetically sound approaches to the treatment of such a contingent of patients.

Materials and methods of research. We studied the results of surgical treatment in the long-term period in 18 patients who underwent surgery for testicular torsion in childhood and reached the age of 16 at the time of examination, and 7 patients were in childhood. All of them were examined within 5 to 12 years after surgical treatment. To assess testicular dysfunction in

the long term, patients were divided into 5 groups depending on the time of admission from the onset of the disease.

Results of the study Catamnestic ultrasound examination in the long term after testicular torsion was performed by us in 11 patients according to the data of hormonal examination of patients, to which patients with the lowest indicators of hormonal activity were subjected. The examination assessed the appearance, symmetry of the scrotum, palpation – size, shape, consistency of the testicle in comparison with the contralateral one. Taking into account the subjectivity and inaccuracy of the clinical data studied during examination and palpation, the main data for evaluating the results of treatment of testicular torsion were obtained by ultrasound. The main changes were reflected in the size, volume of the testicle – the presence and degree of atrophy.

The data obtained were distributed as follows: the size and volume of the testicle after torsion were symmetrical to the contralateral and corresponded to the age norm in three patients (27%). A decrease in testicular volume relative to the volume of a healthy testicle up to two times was detected in 4 patients (36%). Such a decrease is regarded as grade 1 atrophy. A decrease in the volume of testicular tissue after torsion in 4 patients (36%) by more than two times compared with the contralateral one was interpreted by us as the most pronounced atrophy of the 2nd degree.

When describing an atrophied testicle, in addition to a sharp decrease in linear size, a change in the shape of the testicle was noted. It was more elongated, flat, with a pronounced decrease in anteroposterior size. Uneven contours were noted. The echogenicity of the atrophied testicle was reduced, diffusely heterogeneous due to areas of increased and decreased echogenicity. With grade 2 atrophy, the testicular parenchyma was not differentiated echographically. In some cases, a hyperechoic mediastinal stripe was visible in the center of the testicle.

The analysis and comparison of the timing of the disease, the degree of torsion with the obtained long-term results confirmed the dependence of irreversible testicular damage on the timing and degree of torsion. The most pronounced degree of atrophy was found in patients of the older age group. The volume of the testicles after twisting in some cases was 3-4 times less than the volume of a normal testicle. Perhaps this is caused not only by the degree of atrophy of the ischemic organ, but also by hypertrophy with the growth of the contralateral testicle during its pubertal development.

An analysis of the long-term results of surgical treatment of children with acute testicular diseases who have reached prepubescent and post-pubertal age revealed in 27.3% of cases various types of abnormalities in the development of the reproductive system. The most common consequences of the disease were testicular hypoplasia and persistent spermatopathy.

Of all the listed nosological forms of acute testicular diseases, hydatid torsion and testicular torsion remain the most dangerous in terms of disorders of the endocrine function of the testicles. The results of surgical treatment are inversely dependent on age, time and degree of torsion. Therefore, acute respiratory infections in children require timely diagnosis and adequate treatment.

To determine the condition of the testicles and appendage, we have developed a set of diagnostic measures, which includes: clinical examination of the scrotum organs, assessment of testicular size, ultrasound of the scrotum and prostate organs and, according to age indications, determination of the sexual formula of a man, morphospermogram, examination of prostate secretion, as well as duplex scanning of the testicles, hormonal studies, clinical assessment of puberty.

Those who have suffered from OCD in childhood require catamnestic observation, especially if paragraph 2 is not fulfilled. In children who have reached prepubescent and puberty age, to determine the condition of the

testicles, it is necessary to conduct a clinical assessment of the puberty period (the timing of the appearance of secondary sexual characteristics and the dynamics of the development of the testicles, scrotum and penis), as well as a set of clinical and laboratory parameters (ultrasound of the scrotum and prostate organs, hormonal studies, Doppler scanning of the blood vessels of the spermatic cord. Morphospermogram and prostate secretion studies are carried out taking into account age-related indications).

Rehabilitation of children who have suffered acute diseases of the scrotum requires the organization of dispensary supervision by a pediatrician, surgeon, pediatric andrologist, which later culminate in observations by adult andrologists, urologists and endocrinologists.

Conclusion. The revealed clinical and echographic features of the course of acute testicular diseases make it possible to differentiate various forms of the disease in a timely manner and determine further tactics and scope of treatment. The proposed therapeutic and diagnostic algorithm makes it possible to reduce the frequency of postoperative complications and increase the effectiveness of treatment of acute testicular diseases in children.

The developed method of postoperative anesthesia and management of operated patients with acute testicular diseases has a beneficial effect on the processes of pain relief and improvement of blood circulation in the affected testicle and further rehabilitation of patients.

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