ASPECTS OF SURGICAL TACTICS FOR TREATMENT OF UROANDROLOGICAL PATHOLOGY IN YOUNG CHILDREN

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Abstract: *Optimization of surgical tactics for the treatment of uroandrological pathology in children. To establish the optimal treatment tactics, a pro- and retrospective analysis of the case histories of children with acute scrotum syndrome was carried out.*

Key words: *uroandrology, testicular torsion, ultrasound, orchoepididimectomy.*

Introduction. To this day, an important problem of modern medicine is the diagnosis of urgent pathology. One of such common pathologies is uroandrological pathology in children. The increased attention of researchers to the reproductive potential of children and adolescents in recent decades is due to the deterioration of the somatic health of the younger generation and the increase in the proportion of pathology of the reproductive system organs [1].

To select the appropriate treatment tactics for uroandrological pathology, it is necessary to determine the severity of the process before the operation. Diagnostic methods such as testicular scintigraphy, CT, MRI, and laparoscopy are of great importance for such pathologies. However, modern high-tech diagnostic methods for severe forms of uroandrological pathology - angiography, radioisotope methods, CT, MRI - cannot always be used in pediatric practice [2, 3].

Children's health is one of the most significant social values. Children's health protection is an important component for the subsequent development of our country. The future of the country largely depends on the effectiveness of its solution.

One of the integral parts of the analysis of reproductive system morbidity in children is its timely and accurate recording. Even an experienced specialist faces difficulties in making a diagnosis. It is often impossible to determine the underlying disease due to: late patient appeal, severe intoxication or various concomitant pathologies.

The increasing number of men with fertility problems every year, in many cases having their roots in childhood, forces us to take a comprehensive approach to solving the current problem.

Objective of the study: Optimization of surgical tactics for the treatment of uroandrological pathology in children.

Materials and methods of the study. An open prospective and retrospective study of clinical material was conducted using statistical and analytical methods of examination and treatment of 94 patients hospitalized in the pediatric surgery department of the Republican Scientific Center for Emergency Medical Care, Samarkand branch, in the period from 2016 to 2021 due to acute scrotum syndrome. Testicular torsion was detected in 69 children with acute scrotum syndrome, which accounted for 73.4% of all patients with acute scrotum syndrome. Left-sided testicular damage was predominant - 43 (62.3%) cases. It was determined that testicular torsion is most often observed at the age of 12 to 16 years - 40.5% of children. In 15 children with acute scrotum syndrome, torsion and necrosis of the Morgagni hydatid were found, and in 10 children, acute scrotum syndrome resulted from trauma to the testicular area.

The inclusion criteria were children aged 6 months to 17 years with uroandrological pathologies, the presence of voluntary informed consent from the parents of young patients for the processing of personal data.

Results of the study. To establish the optimal treatment tactics, a pro- and retrospective analysis of the case histories of children with acute scrotum syndrome was conducted. The period of the studied clinical material is 2016-2021 and includes the treatment results of 94 children. In terms of the duration of hospitalization in the center, early treatment prevails in the structure of the time criterion - < 6 hours - 39

(41%) children, after 6-12 hours - 13 (14%), after 12-24 hours - 10 (11%) and > 24 hours - 32 (34%). Urgent ultrasound of the genitourinary system was performed for all children.

As can be seen, the risk factor of negative impact on reproductive health: more than ½ of children (59%) sought help after 6 hours. Testicular torsion in 85% of cases developed against the background of complete health without provoking factors and was determined by the main complaint - pain in the testicle area. Objectively, testicular pain, hyperemia and swelling of the scrotum were observed.

When establishing the diagnosis of "acute scrotum syndrome", ultrasound examination was used and signs characteristic of testicular torsion were identified. If less than 6 hours had passed from the onset of testicular torsion, then ultrasound examination of the scrotum revealed a slowdown in blood supply to the arteria testicularis, and during revision of the scrotum - incomplete torsion of the testicle by 180 °, in which case there is a possibility of preserving the testicle and fixing it to the membranes of the septum and the fleshy membrane. If more than 12 hours had passed, then a 360 ° torsion of the testicle was observed with no blood flow in the testicular artery, destructive disorders in the tissues of the testicle and epididymis, and symptoms of hydrocele. In two cases, 12 hours after the onset of pain, the testicle was enlarged, rounded, malpositioned in the scrotum, echogenicity was reduced, the structure was heterogeneous, fluid accumulated, and blood supply was reduced. In another case, there was no blood supply to the testicle parenchyma, the so-called "snail" symptom, which is a spiral course of the spermatic cord. In ultrasound with Dopplerography, the blood supply to the testicle was slow or absent. The velocity parameters of the arterial blood supply were sharply reduced or absent altogether.

All patients underwent urgent scrotal revision. During surgery, 55 (59%) patients with significant testicular abnormalities with no blood supply detected during ultrasound examination showed signs of necrosis and underwent orchiepididymectomy. In 39 (41%) patients, the testicle was viable during surgery and they underwent repositioning and orchiopexy.

Currently, there is no clearly formulated algorithm of actions during testicular torsion. However, the anamnesis and clinical picture, not excluding testicular torsion, should lead to surgical revision without the use of additional examination methods. If the disease duration does not exceed 4-6 hours from the moment of torsion, the absence of severe pain syndrome, edema and hyperemia of the scrotum, it is recommended to try to perform manual detorsion with surgical fixation of the testicle [4, 5]. Surgical tactics depend on the viability of the affected testicle.

During the revision of the scrotum organs, we assessed the color of the membranes, opened the vaginal membrane and removed the fluid from it. Then we performed open detorsion of the testicle, assessed its viability, and the presence of signs of necrosis. If the testicle was cherry-colored, viable, signs of incomplete testicular torsion by 180° were detected and the time from the onset of testicular torsion did not exceed 6 hours, then we twisted the testicle in the opposite direction to the median suture of the scrotum (from the inside out), that is, with torsion of the right testicle, we rotated it clockwise, and with torsion of the left testicle, counterclockwise. After eliminating testicular torsion, we assessed the color of the testicle and covered it with napkins abundantly moistened with warm saline solution for 10-15 minutes. Excess tissue of the vaginal membrane was excised and coagulated. To prevent hydrocele, the edges of the vaginal membrane were everted and sutured with 2–3 sutures of 3-0 synthetic absorbable thread. The testicle was then fixed to the median septum of the scrotum by the dartos. In case of orchiepididymectomy (i.e., complete testicular torsion by >360–540°) and testicular necrosis, the testicle was removed. A drainage tube was inserted into the wound. An antibacterial course was prescribed to prevent inflammation and destructive disorders. Histology of the macropreparation revealed hemorrhagic testicular infarction.

Conclusions. Treatment tactics for testicular torsion should be only active surgical. Following the protocol for diagnosis, treatment and rehabilitation measures for children of different ages with testicular torsion allowed us to establish adequate urgent treatment tactics and subsequent observation.

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