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FEATURES OF THE CLINICAL PICTURE OF TESTICULAR TORSION AND ITS APPENDAGE IN CHILDREN

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Abstract: The study is aimed at developing diagnostic criteria and tactics for the treatment of emergency conditions of the genitourinary system in children, based on the methods of comprehensive urological examination. The aim of the study is to identify the features of the clinical picture in children with testicular torsion and its appendage. The results of the study are based on a prospective controlled analysis of data from 142 patients with emergency pathology of the genital organs.

As part of the diagnosis of acute genital diseases in children, special attention was paid to the characteristics of the local status. The diagnostic value of the local status was studied separately for patients with Morgagni hydatid torsion and testicular torsion. The analysis of the clinical picture carried out during the study revealed new opportunities for expanding the list of anamnestic and clinical symptoms that can be included in the existing list of supporting signs for the diagnosis of these conditions.

Keywords: testicular torsion, Morgagni hydatide, children, clinic, diagnosis.

ОСОБЕННОСТИ КЛИНИЧЕСКОЙ КАРТИНЫ ПЕРЕКРУТА ЯИЧКА И ЕГО ПРИДАТКА У ДЕТЕЙ

Аннотация: Целью исследования является разработка диагностических критериев и тактики лечения неотложных состояний мочеполовой системы у детей на основе методов комплексного урологического обследования. Цель исследования - выявить особенности клинической картины у детей с перекрутом яичка и его придатка. Результаты исследования основаны на проспективном контролируемом анализе данных 142 больных с неотложной патологией половых органов.

В рамках диагностики острых заболеваний половых органов у детей особое внимание уделялось особенностям местного статуса. Диагностическую ценность локального статуса изучали отдельно у пациентов с перекрутом гидатиды Морганьи и перекрутом яичка. Анализ клинической картины, проведенный в ходе исследования, выявил новые возможности расширения перечня анамнестических и клинических симптомов, которые могут быть включены в существующий перечень подтверждающих признаков для диагностики этих состояний.

Ключевые слова: перекрут яичка, гидатид Морганьи, дети, клиника, диагностика.

RELEVANCE

In recent decades, researchers have shown increased interest in the reproductive potential of children and adolescents, due to the deterioration of their somatic health and an increase in the proportion of pathologies in the organs of the reproductive system. According to various authors, up to 60% of young men undergoing medical examinations suffer from diseases that pose a threat to their future reproductive function (1, 2, 5).

However, despite the constant interest of both domestic and foreign authors in the problems of emergency andrology of childhood, the issues of diagnosis and treatment of such pathologies have not yet been definitively resolved. There are no unified approaches to assessing the morphofunctional state of the genitourinary system, and consequently, the criteria determining the tactics of treatment and the need for organ-preserving operations (3, 4, 6, 7).

Thus, the issues of developing diagnostic criteria and strategies for the treatment of emergency conditions of the genitourinary system in children based on the use of complex urological examination methods remain relevant to the present time.

Purpose of the research. After analyzing the objective examination data, identify the features of the clinical manifestation of testicular torsion and Morgania hydatides in children.

MATERIALS AND METHODS

The prospective controlled study included 142 patients with emergency pathology of the genital organs who were hospitalized in the department of surgery and combined childhood trauma of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care in the period from 2020 to 2021. According to the data presented in Figure 1, the majority of patients with acute testicular diseases were patients with "Edematous scrotum syndrome". Among them, the following diagnoses were identified: testicular torsion in 41 (28.9%) patients, hydatid torsion in 29 (20.4%) children, and orchoepididymitis (inflammatory diseases of the testicle) in 22 (15.5%) boys. Other reasons for hospitalization included scrotal injury in 18 (12.7%) patients, a pinched inguinal hernia in 21 (14.8%) children, and other emergency pathologies involving 11 boys, which accounted for 7.7% of the total.

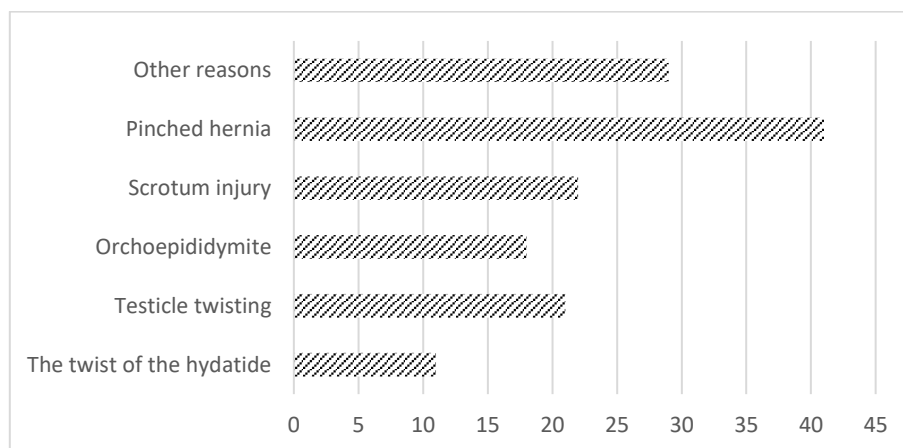


Figure 1. Causes of acute surgical genital diseases in boys

Upon hospitalization, a comprehensive examination was performed, including examination of the patient, anamnesis collection, as well as a standard set of laboratory parameters and instrumental research methods, including ultrasound with Dopplerography. The main method of

diagnosing nosological varieties of acute genital diseases in children was the assessment of the local status. The local examination data were analyzed for the presence or absence of local inflammatory changes, as well as the presence of soreness. Special attention was paid to the identification of symptoms characteristic of individual nosological units of emergency diseases of the genitourinary system in children.

RESULTS

In the general assessment of local manifestations of acute scrotum syndrome, heterogeneity of local changes and clinical manifestations of the disease was observed in 29 patients with Morgagni hydatid torsion. The children sought medical help within 1-4 days from the onset of the disease.

When analyzing the age of patients with hydatid torsion, certain patterns were revealed. This syndrome was most often observed (38.1%) in boys aged 10-11 years (the average age was 9.7 years, with a peak incidence at 11 years). The proportion of young patients (0-3 years old) was low, amounting to 4.0%. The proportion of older patients increased, amounting to 64.7% in patients aged 10-14 years.

Of these, 8 (27.6%) patients treated within 24 hours of the onset of the disease had unexpressed soreness in the upper pole of the testicle, which was described as "pain when touching or moving." In these patients, minor edema and mild hyperemia of the affected half of the scrotum were visually noted, as well as palpatory soreness at the site of the typical localization of the hydatid (at the upper pole of the testicle).

In 7 (24.1%) boys who went to the hospital for 2 days, it was possible to identify a dark, painful, rounded or oval formation shining through the skin (a symptom of a "dark point"). 21 (72.4%) patients hospitalized for emergency indications more than 48 hours after the onset of the disease were characterized, in addition to soreness in the scrotum, by swelling of half of the scrotum and hyperemia.

During a local examination, palpation by stroke irritation of the skin of the inner surface of the thigh 7-8 cm below the inguinal region in the upward direction, the cremaster reflex was determined - contraction of the muscle lifting the testicle on the same side. In 9 (31%) children admitted to the hospital during the first day, the cremaster reflex was positive. Due to the developed edema of the affected side of the scrotum, the remaining 20 (69%) patients could not visualize the cremaster reflex.

The clinical picture of testicular torsion in all patients (41 boys) was characterized by significant pain syndrome and a violation of the general condition. The time from the onset of the disease to admission to the admission department of the Samarkand branch of the RRCEM ranged from 1 hour to 9 days.

The largest proportion of patients were patients aged 10-14 years - 74.5% with intravaginal testicular torsion. The proportion of young children was 16.0%. This category was characterized by an extravaginal form (extravaginal torsion), in which the testicle twists together with its vaginal membrane above the attachment of the parietal sheet of the vaginal membrane. Testicular torsion was relatively rare in boys aged 4-10 years (10.9%) and developed only against the background of cryptorchidism.

The clinical picture in patients with testicular torsion was characterized by pronounced soreness, hyperemia and swelling in the inguinal region. Most of the patients - 34.9% - were admitted in the first 8 hours of the disease. During the first day (24 hours), the majority (65.1%) of all patients sought help. However, according to the results of the study, a high (29.2%)

proportion of patients with a disease duration of more than a day remained. Attention was drawn to 6 patients who were admitted to inpatient treatment 3 days after the onset of the disease. An analysis of the causes of late admission of patients revealed such factors as late parental treatment for medical help, attempts at self-medication, shyness of puberty boys, as well as ignorance of primary care doctors about the danger of testicular torsion.

The cremaster reflex was negative in all patients with testicular torsion. The symptom of Pren (testicle tightened to the outer inguinal ring in combination with increased pain when lifting the gonad with fingers), in direct contrast to the cremaster reflex, was pronounced in all children with testicular torsion.

DISCUSSION

The diagnostic value of the local status was considered separately for patients with Morgagni hydatid torsion and testicular torsion (Table 1).

Table 1. General characteristics of the local status of patients with acute testicular diseases

Characteristics of the local status	Twisting of the Morgagni hydatid	Testicle twisting
Pain when touching or moving	29 (100%)	41 (100%)
Soreness at the site of typical hydatid localization (at the upper pole of the testicle)	8 (27,6%)	-
The "dark point" symptom	7 (24,1%)	-
Swelling of half of the scrotum and hyperemia	21 (72,4%)	41 (100%)
Cremaster reflex	9 (31%)	
Pren's symptom	21 (72,4%)	41 (100%)

From the data presented in the table, it can be seen that the pain when touching or during movements when twisting the hydatid and testicle had a sensitivity and specificity equal to 100%. In early treatment in children with hydatid torsion, pain during palpation in the appendage area and a symptom of palpable formation in the upper pole of the testicle were detected in 27.6%. The symptom of the "dark point" in boys with testicular torsion was negative, and only 24.1% of patients with appendage torsion were positive. Clinical signs of the cremaster reflex were detected only in 31% of children with testicular appendage torsion. Prehn's symptom turned out to be specific and sensitive for 100% of patients with testicular torsion, and in 72.4% of children with appendage torsion due to edema and hyperemia, this symptom was determined.

Local changes on the affected side of the scrotum are quite specific for the diagnosis of testicular torsion, such as testicular edema and soreness, abnormal testicular position and lack of cremaster reflex.

CONCLUSION

Early diagnosis of diseases of the reproductive organs in boys is a key moment for the successful preservation of reproductive function in men. The analysis of the clinical picture carried out in the study revealed the possibilities of expanding the list of anamnestic and clinical symptoms

and including them in the existing list of supporting signs. This is highly likely to help increase the diagnostic value of the system.

Therefore, when contacting a doctor for children with suspected torsion of the testicle and its appendage, it is necessary to deliver the child to a pediatric surgical hospital as soon as possible (within hours) to verify the diagnosis. In the presence of symptoms such as an acute onset or severe pain, a high location of the testicle or severe pain on palpation, it is absolutely necessary to conduct emergency medical care.

Bibliography

1. Baranov A.A., Kuchma V.R., Namazova-Baranova L.S., Sukhareva L.M., Ilyin A.G., Rapoport I.K. Strategy "Health and development of adolescents in Russia (harmonization of European and Russian approaches to the theory and practice of adolescent health protection and promotion)" M.: Publisher Scientific Center for Children's Health of the Russian Academy of Medical Sciences, 2010. 102 p.
2. Furqatovich A. R., Karabaevich K. K., Muxiddinovich T. F. OZONOTERAPIYANING KUYISH SEPSISI KECHISHIGA TA'SIRI //JOURNAL OF BIOMEDICINE AND PRACTICE. – 2022. – Т. 7. – №. 6.
3. Muxiddinovich T. F. et al. FEATURES OF THE POSTOPERATIVE PERIOD IN CHILDREN WITH REFLUXING URETEROXYDRONEPHROSIS //JOURNAL OF BIOMEDICINE AND PRACTICE. – 2023. – Т. 8. – №. 2.
4. Omonov X. S. et al. MODERN METHODS OF TREATMENT OF PATIENTS WITH HYPERTENSIVE CRISIS //Science and innovation. – 2024. – Т. 4. – №. 1. – С. 78-91.
5. Sa'dullayev M. M. et al. BOSH MIYADA QON AYLANISHINING O'TKIR BUZILISHI //Journal the Coryphaeus of Science. – 2024. – Т. 6. – №. 1. – С. 111-119.
6. Sadullayev M. M. et al. ASSESSMENT OF ANESTHESIA EFFICIENCY IN OTORINOLARINGOLOGY //Boffin Academy. – 2024. – Т. 2. – №. 1. – С. 169-184.
7. Salakhovich A. K. et al. ЭПИЦИСТОКУТАНЕОСТОМИЯ //JOURNAL OF BIOMEDICINE AND PRACTICE. – 2022. – Т. 7. – №. 4.
8. Tukhtaev F.M., Mavlyanov F.S. The structure of pathology of the genitourinary system in children who received inpatient care in the department of surgery and combined childhood trauma of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care // Journal of Reproductive Health and uro-nephrological Research 2023, vol. 4, issue 2, pp.37-41
9. Аллазов С. А. и др. Новый способ гемостаза при экстренной аденомэктомии простаты //Академический журнал Западной Сибири. – 2014. – Т. 10. – №. 3. – С. 39-39.Sadullayev M. M., Pulatova N. E., Abdimurodov A. K. GUILLAIN-BARRÉ SYNDROME WITH BULBAR DISORDERS, ATAXIA AND HYPERSOMNIA AT THE ONSET OF THE DISEASE //Journal the Coryphaeus of Science. – 2024. – Т. 6. – №. 1. – С. 120-130.
10. Бобокулов Н. А., Тухтаев Ф. М., Хамроев Г. А. ОСОБЕННОСТИ ДИАГНОСТИКИ ЭХИНОКОККОЗА МОЧЕВОГО ТРАКТА //ПРОБЛЕМЫ СОВРЕМЕННЫХ ИНТЕГРАЦИОННЫХ ПРОЦЕССОВ И ПУТИ ИХ РЕШЕНИЯ. – 2019. – С. 190-191.
11. Бутаева Н. Э. и др. НОВЫЕ МЕТОДЫ ИММУНОФЕРМЕНТНОГО АНАЛИЗА В ДИАГНОСТИКЕ ИНФЕКЦИОННЫХ ЗАБОЛЕВАНИЙ //Boffin Academy. – 2024. – Т. 2. – №. 1. – С. 205-214.

12. Возианов А. С., Ишмурадов Б. Т., Тухтаев Ф. М. МЕТОД ЭНДОСКОПИЧЕСКОЙ БАЛЛОННОЙ ДИЛАТАЦИИ В ЛЕЧЕНИИ ПРИОБРЕТЕННЫХ СТРИКТУР МОЧЕТОЧНИКОВ //ПРОБЛЕМЫ МЕТОДОЛОГИИ И ОПЫТ ПРАКТИЧЕСКОГО ПРИМЕНЕНИЯ СИНЕРГЕТИЧЕСКОГО ПОДХОДА В НАУКЕ. – 2019. – С. 106-109.
13. Гафаров Р. Р. и др. Ингибиторы фосфодиэстеразы 5 типа–первая линия терапии эректильной дисфункции //Достижения науки и образования. – 2020. – №. 5 (59). – С. 103-108.
14. Гафаров Р. Р., Тухтаев Ф. М., Хамроев Г. А. ПРОФИЛАКТИКА ХИРУРГИЧЕСКИХ ОСЛОЖНЕНИЙ ПРИ АДЕНОМЭКТОМИИ ПРОСТАТЫ //Молодежь и медицинская наука в XXI веке. – 2014. – С. 545-546.
15. Гафаров Р. Р., Хамроев Г. А., Тухтаев Ф. М. HoLER И ThuLER-Революционные методики энуклеации предстательной железы //Проблемы современных интеграционных процессов и пути их решения. – 2019. – С. 191-192.
16. Гафаров Р. Р., Хамроев Г. А., Тухтаев Ф. М. Методика гемостаза при аденомэктомии простаты и хроническая болезнь почек //Проблемы методологии и опыт практического применения синергетического подхода в науке. – 2019. – С. 109-114.
17. Гафаров Р. Р., Хамроев Г. А., Тухтаев Ф. М. РОЛЬ И ЗНАЧЕНИЕ ДИСТАНЦИОННОГО ОБРАЗОВАНИЯ В УРОЛОГИИ //РОЛЬ И ЗНАЧЕНИЕ НАУКИ И ТЕХНИКИ ДЛЯ РАЗВИТИЯ СОВРЕМЕННОГО ОБЩЕСТВА. – 2019. – С. 170-171.
18. Ишмурадов Б. Т., Тухтаев Ф. М. ст. науч. сотрудник Института урологии НАМН Украины г. Киев, Украина.
19. Мавлянов Ф. и др. Особенности раннего послеоперационного периода у детей с пузырно-мочеточниковым рефлюксом в зависимости от метода лечения //Первая международная конференция общества детских урологов Узбекистана. – 2024. – Т. 1. – №. 1. – С. 24-25.
20. Мавлянов Ф. Ш., Камолов С. Ж., Тухтаев Ф. М. Диагностика и лечение острой абдоминальной патологии с помощью эндовидеохирургических технологий //Актуальные вопросы современной науки и образования. – 2022. – С. 189-192.
21. Саъдуллаев М. М. и др. НОВЫЙ МЕТОД АНЕСТЕЗИИ В ДЕТСКОЙ ХИРУРГИИ //Science and innovation. – 2023. – Т. 3. – №. 5. – С. 205-215.
22. Саъдуллаев М. М. и др. ОПТИМИЗАЦИЯ ВОЗМОЖНОСТИ НИЗКОПОТОЧНОЙ ИНГАЛЯЦИОННОЙ АНЕСТЕЗИИ В НЕОТЛОЖНОЙ ДЕТСКОЙ ХИРУРГИИ //Boffin Academy. – 2023. – Т. 1. – №. 2. – С. 88-98.
23. Тухтаев Ф. М. МЕТОД ЭНДОСКОПИЧЕСКОЙ БАЛЛОННОЙ ДИЛАТАЦИИ В ЛЕЧЕНИИ ПРИОБРЕТЕННЫХ СТРИКТУР МОЧЕТОЧНИКОВ //Research Focus. – 2022. – Т. 1. – №. 2. – С. 102-105.
24. Тухтаев Ф. М. МЕТОДИКА ГЕМОСТАЗА ПРИ АДЕНОМЭКТОМИИ ПРОСТАТЫ И ХРОНИЧЕСКАЯ БОЛЕЗНЬ ПОЧЕК //Research Focus. – 2022. – Т. 1. – №. 2. – С. 106-108.
25. Тухтаев Ф. М. РОЛЬ И ЗНАЧЕНИЕ ДИСТАНЦИОННОГО ОБРАЗОВАНИЯ В УРОЛОГИИ //Research Focus. – 2022. – Т. 1. – №. 2. – С. 111-112.
26. Тухтаев Ф. М. УСОВЕРШЕНСТВОВАНИЕ ГЕМОСТАЗА ПРИ ГЕМАТУРИИ УРОЛОГИЧЕСКОГО ПРОИСХОЖДЕНИЯ //Research Focus. – 2022. – Т. 1. – №. 2. – С. 109-110.
27. Тухтаев Ф. М., Мавлянов Ф. Ш. Оптимизация хирургической тактики лечения уроandroлогической патологии у детей разного возраста //Research Focus. – 2022. – Т. 1. – №. 2. – С. 113-116.

28. Хамроев Г. А., Тухтаев Ф. М. УСОВЕРШЕНСТВОВАНИЕ ГЕМОСТАЗА ПРИ ГЕМАТУРИИ УРОЛОГИЧЕСКОГО ПРОИСХОЖДЕНИЯ //РОЛЬ И ЗНАЧЕНИЕ НАУКИ И ТЕХНИКИ ДЛЯ РАЗВИТИЯ СОВРЕМЕННОГО ОБЩЕСТВА. – 2019. – С. 180-183.
29. Хамроев Г. А., Тухтаев Ф. М. УСОВЕРШЕНСТВОВАНИЕ МЕТОДОВ МЕСТНОГО ГЕМОСТАЗА ПРИ РАЗЛИЧНЫХ УРОЛОГИЧЕСКИХ КРОВОТЕЧЕНИЯХ //СТИМУЛИРОВАНИЕ ИННОВАЦИОННОГО РАЗВИТИЯ ОБЩЕСТВА. – 2019. – С. 21.
30. Шодмонова З. Р. и др. Значение контактной уретеролитотрипсии в лечении больных с камнями мочеточника //Роль больниц скорой помощи и научно исследовательских институтов в снижении предотвратимой смертности среди населения. – 2018. – С. 275-276.
31. Шодмонова З. Р., Тухтаев Ф. М., Хамроев Г. А. ОПЕРАТИВНОЕ ЛЕЧЕНИЕ СТРИКТУР УРЕТРЫ МЕТОДОМ ВНУТРЕННЕЙ ОПТИЧЕСКОЙ УРЕТРОТОМИИ //ПРОБЛЕМЫ СОВРЕМЕННЫХ ИНТЕГРАЦИОННЫХ ПРОЦЕССОВ И ПУТИ ИХ РЕШЕНИЯ. – 2019. – С. 192-194.
32. Шодмонова З. Р., Хамроев Г. А., Тухтаев Ф. М. Метод ультразвуковой абляции (НIFU) в лечении локализованного рака простаты //Проблемы современных интеграционных процессов и пути. – 2019. – С. 195.
33. Шодмонова З. Р., Хамроев Г. А., Тухтаев Ф. М. ЧРЕСКОЖНАЯ НЕФРОЛИТОТРИПСИЯ В ЛЕЧЕНИИ БОЛЬНЫХ С КОРАЛЛОВИДНЫМ НЕФРОЛИТИАЗОМ //ПРОБЛЕМЫ СОВРЕМЕННЫХ ИНТЕГРАЦИОННЫХ ПРОЦЕССОВ И ПУТИ ИХ РЕШЕНИЯ. – 2019. – С. 194-195.