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RESULTS OF TREATMENT OF ACUTE IDIOPATHIC SCROTAL EDEMA IN CHILDREN

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Abstract: Acute diseases of the scrotal organs are a serious problem in children and are a common cause of emergency hospitalization. Edematous scrotum syndrome can be caused by various causes that exhibit similar clinical symptoms, which complicates differential diagnosis.

Currently, there is no clearly defined algorithm of action for children who are urgently hospitalized with edematous scrotum syndrome. Nevertheless, in the presence of anamnesis and clinical signs that do not exclude testicular torsion, it is urgently necessary to conduct a surgical revision without additional examination methods.

Keyword: acute diseases of organs, Scrotal, swollen scrotum syndrome, clinical signs

РЕЗУЛЬТАТЫ ЛЕЧЕНИЯ ОСТРОГО ИДИОПАТИЧЕСКОГО ОТЕКА МОШОНКИ У ДЕТЕЙ

Аннотация: Острые заболевания органов мошонки представляют собой серьезную проблему у детей и являются частой причиной экстренной госпитализации. Синдром отека мошонки может быть обусловлен различными причинами, имеющими сходную клиническую симптоматику, что затрудняет дифференциальную диагностику.

В настоящее время не существует четко определенного алгоритма действий детей, экстренно госпитализированных с синдромом отека мошонки. Тем не менее, при наличии в анамнезе и клинических признаков, не исключающих перекрут яичка, необходимо срочно провести хирургическую ревизию без дополнительных методов обследования.

Ключевые слова: острые заболевания органов, мошонка, синдром отека мошонки, клинические признаки.

RELEVANCE

Difficulty in diagnosis and insufficient effectiveness of conservative treatment often lead to testicular loss. Based on this, we adhere to the tactics of emergency surgical intervention in most children with acute diseases of the scrotum.

Purpose of the research. Проанализировать и оценить эффективность всестороннего лечения у детей, которые были приняты на госпитализацию в Самаркандский филиал республиканского научного центра экстренной медицинской помощи с диагнозом AISE.

MATERIALS AND METHODS

Of the 110 patients hospitalized from 2020 to 2021 in the Department of Surgery and combined childhood trauma of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care with a diagnosis of AISE, 90 patients underwent emergency scrotomy. The types of operations performed on children with acute diseases of the reproductive system are listed in the table.

1 Table. Types of emergency operations performed in children with AISE

Surgery type	Number	%
Testicular detorsion	40	44,4
Drainage of the scrotal cavity	15	16,7
Removal of the appendage	29	32,2
Suturing a testicular rupture	5	5,6
Hemicastration	1	1,1
Total	90	100

When analyzing the age of patients suffering from edematous scrotum syndrome (AISE), certain patterns were revealed. This syndrome was most common in boys aged 10-11 years (38.1%), with an average age of 9.7 years, and a peak incidence of 11 years. The share of the younger age group (0-3 years old) was small and amounted to 4.0%. However, the proportion of patients in the older age group increased, reaching 64.7% among patients aged 10 to 14 years.

The operations performed in children with AISE were scrototomy, revision of the scrotum organs and, in the presence of hydatid, its removal. The scope and nature of the surgical intervention depended on the surgical findings, which determined the final diagnosis and required appropriate therapeutic measures.

When clinical signs of such urgent conditions as testicular torsion, hydatid torsion and testicular rupture were detected, as well as in the complicated course of orchiepididymitis, emergency surgical intervention was performed. Among all the operations performed for acute diseases of the scrotum, the largest number were "Testicular detorsion" operations (44.4%) with the diagnosis of "testicular torsion".



**Figure 1. Patient B. is 13 years old. The testicle is twisted.
Intraoperative picture**

After testicular detorsion, all patients underwent a blockade of the spermatic cord with 0.25% Novocaine solution. The testicle was warmed with napkins soaked in warm saline solution for 15 minutes. In 40 patients, the testicle and appendage turned pink, and pulsation of the testicular artery was observed. The viability of the organ was beyond doubt.

However, in one case, a boy who was admitted on the 9th day after the onset of the disease, after opening the scrotum cavity, a dark bluish testicle and appendage were found. Despite the intraoperative therapeutic measures, they remained unchanged. Even after incision of the albumen membrane, bleeding from the affected testicle was not observed. Due to the non-viability of the organ, hemicastriation had to be performed.

In second place among all operations for AISE were hydatid removal operations, which were performed in 32.2% of patients. In many cases, the hydatid was located in the sinus between the head of the appendage and the upper pole of the testicle.

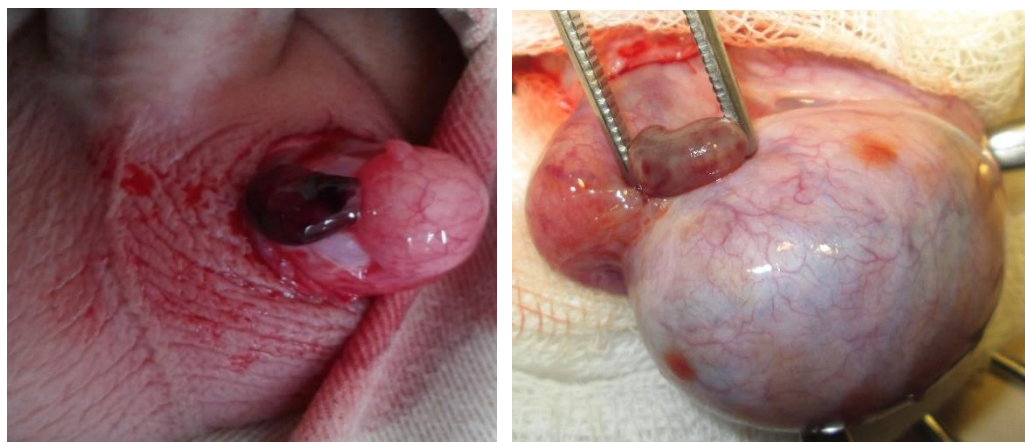


Figure 2. Intraoperative type of necrosis and torsion of the Morgagni hydatid

Upon detection of clinical and echographic signs of inflammation of the testicle and its appendages in 5 patients, it was decided to carry out conservative treatment. These patients were prescribed antibacterial therapy with broad-spectrum drugs in accordance with the age dosage. They were also prescribed nonsteroidal anti-inflammatory drugs in small doses and antihistamines to reduce pain and swelling.

In 15 patients with orchepididymitis who were treated after 3 days from the onset of the disease, an ultrasound examination of the scrotum revealed a pronounced reactive hydrocele with heterogeneous contents. An emergency scrototomy with evacuation of purulent effusion was performed for this category of patients.

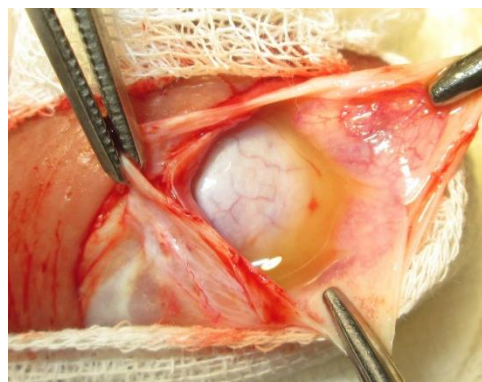


Figure 3. Patient M. 13 years old. Acute orchepididymitis. Purulent effusion

Upon detection of echographic signs of testicular rupture, emergency surgery was performed in 5 patients. In such cases, the main strategy was to perform organ-preserving reconstructive plastic surgery. After removing the hematoma and carefully stopping the bleeding without using an electrocoagulator, the integrity of the testicle was restored within viable tissues. This was achieved through the application of nodular sutures using an atraumatic needle and synthetic absorbable suture material (PDS, Maxon 4/0 or 5/0).

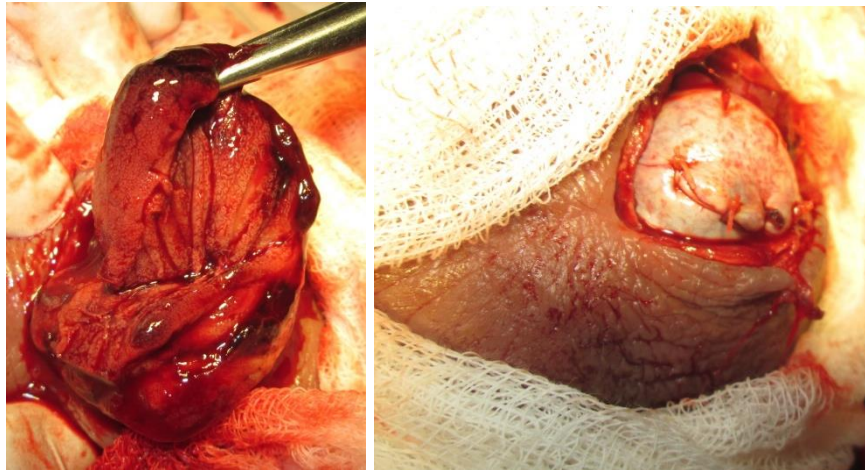


Figure 4. Patient V. 15 years old. Rupture and suturing of testicular membranes

The diagnostic role of ultrasound in scrotal injuries has proven to be key to determining the nature and extent of damage. The data obtained made it possible to establish a clinical diagnosis and determine the management tactics of these patients. For example, when a testicular contusion, hematoma of its membranes or post-traumatic epididymitis were detected, conservative treatment was preferred, without surgery to revise the scrotum. For patients with soft tissue hematoma of the affected half of the scrotum, surgical intervention was also not required, and treatment included rest, the use of a suspension and physiotherapy procedures for the purpose of resorption of the hematoma.

The findings of the study emphasize that pain in the scrotum can have various causes. However, the most important diagnosis that requires exclusion in the first place is testicular torsion. The two main factors affecting the extent of testicular damage are the time elapsed from the onset of symptoms to the treatment of torsion, and the angle of twisting of the spermatic cord. The use of additional research methods is limited by the urgent nature of the patient's condition and should not lead to a postponement of the surgical revision with the elimination of the twist. In case of any complications arising during the diagnosis, an emergency operation is recommended. During surgery, the non-viable testicle should be removed and the contralateral testicle should be fixed in order to prevent the formation of antisperm antibodies and preserve the function of a healthy contralateral testicle.

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