

**CLINICAL AND LABORATORY COURSE OF BRUCELLOSIS IN CHILDREN
AND THE ROLE OF PHYSIOTHERAPY IN TREATMENT**

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Abstract: This article presents the clinical course of brucellosis in children, changes in laboratory analyses, and the effectiveness of physiotherapy in modern treatment. The study was conducted on 140 patients with acute brucellosis aged 3 to 17 years who were hospitalized in the Children's Department of the Surkhandarya Regional Infectious Diseases Hospital.

Premorbid anemia negatively affects the course and outcome of acute brucellosis in children. Additionally, to prevent various complications in the bones and joints as well as disability, patients were recommended for rehabilitation in sulfur and radon-rich resorts, specifically the Sherabad and Omonkhona resorts, taking into account the damage to their musculoskeletal and nervous systems.

Keywords: Surkhandarya, children, acute brucellosis, rehabilitation, disability, physiotherapy, arthralgia, fever.

**BOLALARDA BRUSELLOYZ KASALLIGINING KLINIK LABARATOR
KECHISHI VA DAVOLASH MUOLAJALARIDA FIZOTERAPIYANING O'RNI**

Annotasiya: Ushbu maqolada bolalarda bruselloyz kasalligining klinik kechishi, laborator tahlillaridagi o'zgarishlari, zamonaviy davolashda fizioterapiyaning o'rni samaradorligi keltirilgan. Tadqiqot ishi Surhondaryo viloyat yuqumli kasalliklar shifoxonasida Bolalar bo'limida yotib davolangan 140 nafar o'tkir bruselloyz bilan zararlangan 3 yoshdan 17 yoshgacha bo'lgan bemorlarda olib borildi.

Bolalardagi o'tkir bruselloyz oqimiga va oqibatiga premorbid anemiya holati salbiy ta'sir ko'rsatadi. Shu bilan birga suyak bo'g'imdagi turli xil asoratlarni, nogironlikni oldini olish uchun reabilitatsiya maqsadida bemorlarga harakat-tayanch va asab tizimini zararlanganligini hisobga olgan holda oltingugurt va rodonga boy oromgohlarga Sherobod oromgohida va Omonxona oromgohida davolanishga tavsiya berildi.

Kalit so'zlar: Surhondaryo, bolalar, o'tkir bruselloyz, reabilitatsiya, nogironlik, fizoterapiya, artralgiya, istma.

КЛИНИКО-ЛАБОРАТОРНОЕ ТЕЧЕНИЕ БРУЦЕЛЛЕЗА У ДЕТЕЙ И РОЛЬ ФИЗИОТЕРАПИИ В ЛЕЧЕБНЫХ МЕРОПРИЯТИЯХ

Аннотация: В данной статье представлены клиническое течение бруцеллеза у детей, изменения в лабораторных анализах, роль и эффективность физиотерапии в современном лечении. Исследование проводилось на 140 пациентах с острым бруцеллезом в возрасте от 3 до 17 лет, находившихся на стационарном лечении в детском отделении Сурхандарьинской областной инфекционной больницы.

На течение и исход острого бруцеллеза у детей отрицательно влияет наличие преморбидной анемии. Вместе с тем, для профилактики различных осложнений костно-суставной системы и инвалидности, с целью реабилитации пациентам рекомендовано лечение в санаториях, богатых серой и радоном, таких как "Шерабад" и "Омонхона," с учетом поражения опорно-двигательного аппарата и нервной системы.

Ключевые слова: Сурхандарьинская область, дети, острый бруцеллез, реабилитация, инвалидность, физиотерапия, артралгия, лихорадка.

The relevance of the problem: In the countries of Central Asia, the incidence of brucellosis remains high among infectious diseases, with the disease being registered in approximately 10 administrative districts of Uzbekistan (accounting for 80% of the Republic). Notably, 80% of cases manifest in chronic form, leading to disability in 30% of patients. This, in turn, negatively impacts the economic and social development of our country [1].

The urgency of the brucellosis problem is undeniable. However, while numerous studies have focused on the clinical presentation and other aspects of brucellosis in adults, the issue of brucellosis in children has been somewhat neglected. In fact, more than one-tenth of brucellosis cases in our country occur in children. The course of brucellosis is related to the body's resistance characteristics. School-age children have unique features of resistance to infection and the ability to eliminate it from their bodies. Therefore, addressing the problem of brucellosis in the field of pediatrics should be considered of utmost importance [3-4].

Research objective: To evaluate the continuity of clinical laboratory indicators and the role of physiotherapy in the treatment of brucellosis in school-age children.

Research methods and materials: All patients in the study were examined in the Children's Department of the Surkhandarya Regional Infectious Diseases Hospital. For the study, we took 140 patients with acute brucellosis aged 3 to 17 years. All of them were confirmed by MRI, CT, MSCT, general blood and urine biochemical studies, basic Wright and Hedelson tests. The examination of patients was conducted in patients who received inpatient treatment in 2021-2024. The studies were conducted in the virology and bacteriology laboratories of the Surkhandarya Regional and Termez City Sanitary and Epidemiological Centers.

When studying the sex composition during the study, there were 90 (64%) men and 50 (36%) women. No statistically significant differences were observed in the groups by sex composition.

When studying the age-specific morbidity rate of all patients during the study, 33.7% of cases were observed in the age group of 17 years and older. When studying the incidence of acute brucellosis in the sex ratio, the incidence in men and women was 1.3 times higher than in men. This is due to the fact that when studying the complaints and anamnesis data of all male patients, they were fattened with small ruminants and cattle and consumed more raw milk and dairy products. Abuse of wine and alcoholic beverages was also detected.

Table 1

Information on the age and gender of the patient children in the study.

Age	Boys		Girls		Total	
	N=90		N=50		N=140	
	M	%	M	%	M	%
3-7 young	17	19	5	10	22	15,7
7-11 young	36	40	18	36	54	38,6
7-17 young	37	41	27	54	64	45,7

Today, despite the infant mortality rate being 15.6 per 1,000 live births, the birth rate remains very low at 9.1% [2-5]. In recent times, the incidence of acute brucellosis among children has been increasing. The main reasons for this are the deterioration of the ecological environment and a sedentary lifestyle, as well as violations of hygienic requirements in livestock farming facilities.

Results of the study: The onset of the disease was manifested by respiratory syndrome in 2 patients (8%), diarrhea in 5 (20%), astheno-vegetative symptoms in 5 (20%), flu-like manifestations in 7 (28%), and arthralgia in 6 (24%). The clinical course was severe in 5 (20%) patients and moderate in 20 (80%). Half of the patients in the study experienced a disease duration of more than one week, with 20% of patients progressing to a subacute form. The study showed that the classic symptoms of brucellosis in children are similar to those in adults. In iron-deficiency anemia, the adaptation of a child's body to brucellosis infection is significantly weakened, leading to a prolongation of the disease. This conclusion was confirmed by all the methods applied in the study.

Based on our observations of patients, we have determined that secondary chronic brucellosis is characterized by intoxication syndrome, manifested as undulating fever, chills, and sweating, while in primary brucellosis, these symptoms are less pronounced. Damage to the organs of the reticuloendothelial system is also more evident in secondary chronic brucellosis compared to primary chronic brucellosis (57.6±5.1%). In brucellosis, the main pathological process occurs in the musculoskeletal system. It should be emphasized that in primary chronic brucellosis, signs of arthralgia were observed in 77.9±4.2% of cases. In patients with secondary chronic brucellosis, arthritis with visible joint changes (swelling, redness, limited mobility) is characteristic, occurring in 70.6±4.7% of cases compared to 20.0±4.1% in primary cases (p<0.05).

In treating the disease, we employed etiological and symptomatic therapies during the acute inflammatory phase, taking into account the pathological processes occurring in the musculoskeletal system. After the inflammation had somewhat subsided (following the completion of the first course of etiotropic treatment), patients were recommended various physiotherapeutic procedures. These included mummy electrophoresis to alleviate joint pain and reduce inflammation, lidase phonophoresis to enhance absorption, paraffin and mud applications, and hydrocortisone ultrasound to reduce spasms. For cases of arthrosis-arthritis, osteochondrosis, neuritis, and radiculitis, massage therapy was also recommended.

Conclusion: Premorbid anemia negatively affects the course and outcome of acute brucellosis in children. Therefore, once this condition is identified, it becomes necessary to make appropriate adjustments to the treatment protocols.

Based on the above, it is crucial to conduct physiotherapeutic procedures in combination with etiotropic, pathogenetic, and general strengthening therapy when treating children with acute brucellosis. This approach aims to reduce the inflammatory process in the musculoskeletal system, maintain motor function in this system, and prevent various joint complications and disabilities resulting from inflammation. Additionally, for rehabilitation purposes, considering the damage to the musculoskeletal and nervous systems, patients were recommended to undergo treatment at resorts rich in sulfur and radon, specifically at the Sherobod and Omonkhona sanatoriums.

References:

1. Imomaliyev U. N., Kosimov O. Sh., Ibragimov A. A. Nucleotide Composition and Homology of Brucella DNA // Infection, Immunity and Pharmacology. - Тошкент, 2016. - No 6. - P. 41-42. (14.00.00; No15).
2. Qosimov O. Sh., PhD thesis abstract. Microbiological and genetic analysis of pathogens isolated from brucellosis foci in Uzbekistan and improvement of epidemiological monitoring of the disease. Tashkent-2017.
3. Yarmukhammedova N.A., Rustamova Sh.A., Muminova Sh.Sh. Age-related characteristics of brucellosis in the Samarkand region. "Problems of Biology and Medicine." Samarkand, June 14-15, 2018.
4. Tuychiev L. N., Mamatkulov I. Kh., Kasimov O. Sh. Sources and factors of brucellosis transmission in the Republic of Uzbekistan // 66th Annual Brucellosis Research conference. - Тошкент, 2016. - P. 50-51.
5. Sultonov R., Qurbonov B. INFEKTSION KASALLIKLAR: SABABLARI, OLDINI OLISH VA DAVOLASH USULLARI //Journal of science-innovative research in Uzbekistan. – 2025. – T. 3. – №. 2. – C. 385-387.