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Подострый бруцеллёз: случай из практики

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АННОТАЦИЯ

Бруцеллёз является одним из наиболее распространённых зоонозных заболеваний в мире. Эпидемиологическая ситуация по бруцеллёзу в Российской Федерации характеризуется как неблагополучная. Особую актуальность проблема бруцеллёза сохраняет в регионах с развитым животноводством. Полиморфизм клинических проявлений и отсутствие специфических симптомов бруцеллёза затрудняют диагностику данного заболевания. Представленный в работе клинический случай иллюстрирует запоздалую диагностику бруцеллёза у пациента 10 лет с волнообразной лихорадкой, лимфаденопатией, гепатоспленомегалией. Дефекты оказания медицинской помощи были обусловлены отсутствием настороженности врачей в отношении бруцеллёза, недостаточностью интерпретации данных эпидемиологического анамнеза, неправильной оценкой совокупности клинических синдромов болезни и лабораторных показателей. В результате бруцеллёз был диагностирован лишь через полгода от начала заболевания. Последующая этиотропная терапия привела к стабилизации состояния пациента, который был выписан из стационара с рекомендацией продолжить лечение амбулаторно под наблюдением врача-инфекциониста.

Ключевые слова: клинический случай; подострый бруцеллёз; артрит голеностопного сустава.

Как цитировать

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Subacute brucellosis: A case report

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ABSTRACT

Brucellosis is one of the most common zoonotic diseases worldwide. The epidemiological situation of brucellosis in the Russian Federation is characterized as unfavorable. Brucellosis remains a problem in regions with developed animal husbandry. The variety of clinical manifestations and the absence of specific symptoms of brucellosis make its diagnosis challenging. The clinical case presented in this paper illustrates the delayed diagnosis of brucellosis in a 10-year-old patient presenting with fever and enlarged lymph nodes, liver, and spleen. The failure in the provision of medical care was attributed to the lack of the alertness of doctors regarding brucellosis, insufficient interpretation of epidemiological history data, and incorrect assessment of the totality of the clinical syndrome of the disease and laboratory parameters. As a result, brucellosis was diagnosed only 6 months after disease onset. Subsequent etiotropic therapy led to the stabilization of the patient's condition, who was discharged from the hospital with recommendations under the supervision of an infectious disease specialist.

Keywords: arthritis of the ankle joint; case report; subacute brucellosis.

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ECO•VECTOR

BACKGROUND

Brucellosis is a zoonotic disease endemic to regions with developed animal husbandry, with several routes of transmission and with polymorphic clinical manifestations. A meta-analysis of numerous scientific studies on the epidemiology, clinical, diagnostic and treatment of brucellosis conducted between 2011 and 2021 showed that brucellosis is a worldwide problem, including in developed countries with a high level of socioeconomic development [1, 2]. The epidemiological situation in the Russian Federation over the past decade is characterized as unfavourable, which is associated with persistent epizootic failure among epidemiologically significant species of small and large cattle in regions with developed livestock breeding [2]. According to the Russian Federal State Statistics Service for 2010–2021, the number of first-time brucellosis patients detected annually ranged from 119 to 431 [3]. More than 50% of first-time brucellosis cases occur in the North Caucasian Federal District, with the highest number in the Republic of Dagestan [3, 4] (Table 1). The worrying trend of a relatively high incidence of brucellosis among minors is also noteworthy [2, 4]. Reduced serological and bacteriological testing in animals and humans, weakening of veterinary and sanitary controls and the establishment of new private farms are an obstacle to the timely detection of new brucellosis cases [5]. The non-specificity of clinical manifestations and the 'masking' of other diseases make early diagnosis of brucellosis very difficult [6–9]. This article describes a case of late diagnosis of brucellosis in a 10-year-old boy.

DESCRIPTION OF THE CASE

Patient N., 10 years old, was admitted to the Infection Clinical Hospital No 1 of the Moscow City Health Department on 10 February 2021 with complaints of general weakness, pain in the right ankle joint.

Medical history

In June 2020, 8 months prior to the current admission, there was a five-day episode of febrile fever. The condition was treated as an acute viral infection of the respiratory tract. However, over the next 4–5 weeks, the patient had recurrent subfebrile fever, and after 1.5 months (August 2020), pain appeared in the left hip joint projection. Radiological examination of the left hip joint was carried out — no pathology was found. Due to the detection of increased transaminase activity [aspartate aminotransferase — 233 U/L, alanine aminotransferase — 425 U/L], polylymphadenopathy and hepatosplenomegaly the patient was examined for several days in August 2021 and was discharged with a diagnosis of infectious mononucleosis. Subfebrile symptoms and elevated transaminases persisted after discharge. Additional investigations ruled out Wilson-Conovalov disease, viral hepatitis B and C, alpha-1-antitrypsin deficiency. The patient was treated as an outpatient with symptomatic therapy with variable success: subfebrile symptoms resumed after treatment withdrawal. In November 2020 due to increasing of transaminases level (alanine aminotransferase — 808 U/l, aspartate aminotransferase — 428 U/l), thrombocytopenia ($128x10^9$/l) the patient was admitted to hospital with the diagnosis of high activity non-viral hepatitis. He was treated with symptomatic therapy and his cytolysis score (alanine aminotransferase — up to 327 U/l, aspartate aminotransferase — up to 145 U/l) decreased. He was discharged in mid-December 2020 under paediatrician observation with improvement. At the end of January 2021, against the background of general weakness, arthralgia, myalgia, swelling (pastosity) of the right ankle joint occurred. The patient was re-consulted by an infectious disease specialist, who recommended examination for brucellosis. On examination he had positive Heddelson's, Wright's reactions and a brucellosis immunoassay result (M and G immunoglobulins were detected). After examination, the patient was readmitted to the infectious disease unit.

Life history

Born from a first pregnancy without complications. On time, physiological birth. Postpartum development without any special features. Specific immunoprophylaxis was administered according to the schedule of prophylactic vaccinations.

Epidemiological history

Living conditions are satisfactory. He lives with his parents. The patient's parents are migrant workers: they arrived in Moscow with their son from Bishkek in July 2020. According to the parents, while living in Kyrgyzstan they bought goat's milk for their son at the market.

Objective status

The condition is of moderate severity. The patient has a normal build and normal nutrition. There are no skeletal deformities. Slight pastosity of the right ankle joint. Skin and visible mucous membranes of natural colour, clean. There

Table 1. Number of first-time brucellosis cases

The year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Russian Federation	431	486	465	342	369	393	331	317	290	397	119	248
North Caucasus Federal District	249	286	298	211	231	267	217	207	203	278	91	197

was no hyperemia or plaque in the pharynx. The palatine tonsils are of normal size. The cervical, axillary and inguinal lymph nodes were palpated, enlarged to 1–1.5 cm, painless. The rate of respiratory movements — 20 per minute, chest excursion is symmetrical, breathing is vesicular, no rales. Blood pressure 100/70 mm Hg, heart rate 92 per minute. Heart tones are slightly muffled, rhythmic, no murmurs are heard. The abdomen is soft and painless on palpation in all parts. The liver is palpated 2 cm below the edge of the rib arch. The spleen is palpated in the position on the right side. Tapping the lower back is painless on both sides. There was no delay in physiological excretions. Consciousness is clear and adequate. No focal or meningeal symptoms.

Examination in the hospital revealed thrombocytopenia (114×10^9/l), increased aminotransferase levels (alanine aminotransferase — 176 U/L, aspartate aminotransferase — 254 U/L), positive Wright reaction results in 1:400 titer. A sonographic examination of the abdominal organs revealed hepatosplenomegaly and enlarged mesenteric lymph nodes.

On the basis of anamnestic, clinical, epidemiological and laboratory data, the patient was diagnosed with A23.9 Subacute brucellosis, arthritis of the right ankle (Wright reaction 1:400).

Aetiotropic therapy was given: co-trimaxozole 120 mg 3 times a day, rifampicin 300 mg 2 times a day.

The patient's condition and well-being improved, body temperature normalised, arthralgia and pastosity of the right hip joint regressed. He was discharged from the hospital on the 13th day in a satisfactory condition under the supervision of an infectious disease specialist at the outpatient clinic, with recommendations to continue antibiotic therapy for up to 45 days and to monitor laboratory parameters.

DISCUSSION

The rare occurrence of brucellosis in the Moscow region and the consequent low awareness of the clinical manifestations of the disease among physicians is responsible for the late diagnosis of brucellosis, which was the case here, with the correct diagnosis being made only at the third hospital admission. The patient's hepatosplenomegaly with hypertransaminemia led to only one line of diagnostic search — exclusion of liver pathology. However, the combination of lymphadenopathy, hepatosplenomegaly, prolonged fever and arthralgias allowed to assume the patient had brucellosis and to prescribe specific examination. There are objective difficulties in laboratory diagnosis of brucellosis [10, 11], but even routine tests to diagnose the disease were not prescribed for six months. More careful collection and assessment of the epidemiological history (patient came from a brucellosis-endemic region [12], drank raw goat's milk) would have significantly accelerated the diagnosis and prescribed an adequate therapy earlier. The clinical case illustrates the need for careful assessment of the epidemiological data and clinical manifestations in identifying cases of prolonged unulcerative fever with an undetermined diagnosis.

CONCLUSION

Brucellosis is a zoonotic disease that can occur in the acute phase without specific symptoms, mimicking the manifestations of other diseases. The "gold standard" for diagnosis is bacterial growth in blood or tissue culture. However, the bacteriological diagnosis of brucellosis has objective difficulties. Therefore, early diagnosis of brucellosis is based on the correct collection and interpretation of epidemiological and clinical data, followed by confirmation of the diagnosis by serological methods.

ADDITIONAL INFORMATION

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