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FEATURES OF BRUCELLOSIS IN CHILDREN

Djabbarova N. R.
Assistant of the Department of Clinical Laboratory
Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD

Daminov F. A.
DSc, Head of the Department of Clinical Laboratory
Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD;

Mallayeva O.
Cadet of the Department of Clinical Laboratory
Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD;

Toshbotirova X.
Cadet of the Department of Clinical Laboratory
Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD;

Abdumallayev A.
Cadet of the Department of Clinical Laboratory Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD;Samarkand State Medical University, Samarkand, Uzbekistan

Abstract
Brucellosis occurs in all age groups, including children. In children, brucellosis typically presents more benignly. In most cases during the acute phase of the disease, functional disturbances of the central nervous system are observed, with children complaining of headaches and poor sleep. Parents note their rapid fatigue, poor mood, unexplained irritability, and tearfulness. Signs of autonomic nervous system involvement during the acute phase include labile heart rate, tendency to lower blood pressure, acrocyanosis, and skin pigmentation changes.

Keywords: Acute brucellosis, central nervous system, children, intoxication.

Introduction

Children with acute brucellosis often show Pityriasis alba (a type of white pityriasis) as whitish spots on the face, which are clearly distinguishable on normal and especially tanned skin. Scraping reveals fine, scaly exfoliation. Autonomic dysregulation may manifest as sweating. Serous meningitis and meningoencephalitis occur rarely in children suffering from brucellosis.

The course of brucellosis infection varies among different age groups in children. In young children, the disease begins acutely, with high fever, a general deterioration of condition, and signs of intoxication. Changes in the skin, lymph nodes, and musculoskeletal system are usually mild. The respiratory system may show inflammation of the upper respiratory tract, diffuse bronchitis, and focal pneumonia. Frequent gastrointestinal disturbances are also characteristic, including

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reduced appetite, colitis, and dyspepsia. The liver and spleen are significantly enlarged and slowly return to normal size during remission. Blood tests typically show a significant increase in ESR and leukocytosis.

In preschool-aged children, the onset of the disease is gradual, with peripheral lymphadenopathy and enlargement of the liver and spleen. Functional disturbances primarily affect the nervous and cardiovascular systems, while changes in the musculoskeletal system are minor. In school-aged children, the lymphatic system becomes involved, and changes in the musculoskeletal, peripheral nervous, and urinary systems are less extensive and severe.

Clinical manifestations of brucellosis are characterized by variability and nonspecificity at all stages of the infectious process. As a result, clinical signs cannot be definitive for diagnosing brucellosis. It is essential to consider that brucellosis typically involves combined lesions of organs and systems, with predominant effects on the musculoskeletal and nervous systems. Attention should be given to any past unclear febrile states accompanied by joint pain, persistent "radiculitis," recurrent orchitis, pronounced asthenoneurotic symptoms, and multiple lesions, typically of major joints, the spine, and sacroiliac joints. Careful collection of anamnesis is crucial, including professional activities and consumption of undercooked animal products.

Diagnosis of brucellosis is based on the following epidemiological data:

- Residence in an epidemiologically unfavorable region.
- Professional activities: shepherds, milkers, livestock workers, veterinary personnel, employees of veterinary laboratories, participation in seasonal activities such as shearing and calving, and workers in meat processing and wool washing industries.
- Individuals arriving for seasonal work from regions with brucellosis prevalence.
- Owners of individual livestock.
- Individuals consuming unboiled milk, dairy products from unverified sources, and poorly cooked meat.

Changes in hematological laboratory tests also exhibit nonspecific alterations. In a general blood analysis, most cases show a normal white blood cell count, possible lymphocytosis, and normal ESR, with accelerated rates noted in only 25% of cases (30-40 mm/hour). Acute phase inflammatory reactions are typically normal or exhibit minor deviations. Moderately expressed changes in liver function tests may occur, such as elevated AST, ALT, and bilirubin levels. Bacteriological, serological, and skin-allergy tests are of primary importance. Laboratory diagnosis of brucellosis in humans is conducted in accordance with current regulatory and methodological documents. Studies to isolate the pathogen or its genome (bacteriological, PCR studies) are performed in laboratories specializing in hazardous infections, licensed to work with pathogens of groups I - II.

For laboratory diagnosis of brucellosis in humans, three groups of methods are used:

1. Detection of the causative agent and its soluble antigens.
2. Identification of specific antibodies.
3. Assessment of sensitization to brucella antigens.

Using a comprehensive approach that includes bacteriological and serological methods, such as ELISA, as well as PCR, allows for the evaluation of pathogen persistence, the fate of its antigens in the body, and their influence on the dynamics and outcomes of the infectious process.

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