

SPLENIC ABSCESS DUE TO BRUCELLA IN CHILDHOOD*

A Case Report

*Glten Semeer MD***, *Zafer Ecevit MD****, *Bahadır Glbulak MD*****
*Mehmet Ceyhan MD****, *Gler Kanra MD***, *Yaşar Anlar MD****

SUMMARY: Semeer G, Ecevit Z, Glbulak B, Ceyhan M, Kanra G, Anlar Y. (Department of Pediatrics, Hacettepe University Faculty of Medicine, Ankara, Turkey). Splenic abscess due to brucella in childhood. A case report. Turk J Pediatr 1995; 37: 403-406.

An eleven-year-old male was diagnosed with multiple splenic abscesses due to brucella. He was treated only with antibiotics. Although splenic abscess is very rare in childhood, in febrile patients with upper quadrant abdominal pain, tenderness and splenomegaly, splenic abscess should be suspected especially in epidemic regions. Diagnosis can be confirmed by ultrasonography and computerized tomography. *Key words: brucella, splenic abscess.*

Splenic abscess is rare in childhood and occurs mostly in the fifth and sixth decade of life in the form of multiple or solid abscesses. As the mortality rate is very high, early diagnosis and treatment is of great importance.

The metastatic infections and predisposing factors generally have an important role in the occurrence of splenic abscess. Among the infectious diseases, typhoid fever, malaria and dysentery infections are the main causes.

In this article, a case of multiple splenic abscesses due to brucella is reported which may be of interest since it was treated only by antimicrobial therapy.

Case Report

An eleven-year-old male was admitted to Hacettepe Children's Hospital with the complaints of fever of four days duration and left upper quadrant abdominal pain. His body temperature increased to 39.5 °C, especially during the night, despite treatment with penicillin procaine for three days.

The physical examination revealed fever (38.5 °C), left upper quadrant tenderness, splenomegaly of 2 cm and muscular rigidity. The white blood cell count was 4600/mm³ with 36% neutrophils, 52% lymphocytes and 2% monocytes; hemoglobin was 12 g/dl and erythrocyte sedimentation rate was 40 mm/h.

* From the Department of Pediatrics, Hacettepe University Faculty of Medicine, Ankara.

** Professor of Pediatrics, Hacettepe University Faculty of Medicine.

*** Associate Professor of Pediatrics, Hacettepe University Faculty of Medicine.

**** Research Assistant in Pediatrics, Hacettepe University Faculty of Medicine.

The chest and plain abdominal radiograms were normal and PPD was negative. Abdominal ultrasonography demonstrated splenomegaly with multiple hypo-echoic lesions 6-8 mm in diameter, and the liver and biliary system was found to be normal. Brucella and Salmonella group agglutination tests were negative. C3, C4, CH₅₀, quantitative immunoglobulins and nitroblue tetrazolium tests were normal. Sickling test was found to be negative. No pathogenic microorganism was cultivated on throat, urine, blood and bone marrow cultures. The bone marrow differential cell count and morphology was normal with no evidence of malignancy. Ampicillin and amikacin therapy was initiated at first with the diagnosis of enteric fever, but the patient did not respond to this therapy.

In the second week, the brucella agglutination test was repeated and found to be positive with a titer of 1/640. Then ampicillin was replaced with tetracycline therapy. The patient's body temperature decreased to normal levels and splenomegaly disappeared. In the sixth week of therapy, the Brucella agglutination test was positive with a titer of 1/80, abdominal ultrasonography and computerized tomography (CT) scan revealed completely normal findings and the patient was discharged. The brucella agglutination test was repeated in the third and sixth months and at the end of the first year and found to be negative. The patient was found to be healthy as well.

Discussion

Splenic abscesses occur only rarely. In a large autopsy series, the incidence of splenic abscess was reported to be between 0.2 and 0.7 percent^{1,2}. The etiology of splenic abscess is often one or more of the following: metastatic infection, superinfection, ischemia, hemoglobinopathies, hemolytic anemias, trauma, chronic infections and immunodeficiency^{3,4}. None of the above predisposing factors was encountered in our patient.

The symptoms and findings of splenic abscesses are nonspecific; fever and upper left quadrant abdominal pain are the earliest and most frequent symptoms^{4,6}. Fever is seen in 80-95 percent, upper left quadrant abdominal pain in 35-60 percent splenomegaly in 25-33 percent tenderness in the upper left quadrant in 40 percent of cases^{3,4,6}. If the abscess is located in the upper pole of the spleen, the patient complains of left shoulder pain. If the abscess is deep-seated and does not involve the splenic capsule, diaphragm irritation may not occur^{4,7}.

The most common etiologic agents of splenic abscesses are streptococci, staphylococci and gram-negative bacilli (especially *E.coli*)^{4,6,8}. Although brucella organisms have an abundance of reticuloendothelial cells, splenic abscess due to brucella is rarely seen and is generally caused by *B.melitensis* and *B.suis*⁹. A definite diagnosis of brucellosis can be made by recovering the organism

from blood, body fluids, tissue specimens or serologically. While in 17 percent of cases, diagnosis is made by culture, in 85 percent of cases it is made by serologic tests, especially in endemic areas^{10, 11}. The agglutination test was negative in our patient at the beginning, then it increased to a titer of 1/640 the following week. The prognosis of splenic abscess is good with early diagnosis and treatment. However, the diagnosis is difficult to make because the clinical symptoms are insidious. The use of new non-invasive and sensitive imaging techniques, such as ultrasonography and CT, has facilitated the making of a diagnosis to a great extent¹². The sensitivity of CT and ultrasonography is 96 percent and 76 percent respectively³. Also, ultrasonography has a great advantage in that it allows percutaneous drainage¹². The mortality rate of splenic abscess is 100 percent without therapy^{3, 4}. In cases of multiple or large solitary abscess, splenectomy is preferable; the percutaneous drainage with antimicrobial therapy has decreased the necessity of splenectomy in recent years¹². In our case, only antimicrobial therapy was used against brucella, and remarkable clinical improvement was attained.

Spink⁹ reported six adult cases of brucellosis, five of which had splenic abscess and underwent splenectomy. Also, in those five cases *B.suis* was isolated from the splenic abscess. In another series composed of 173 cases, four adult patients were reported with abscess due to brucella⁴.

Interestingly we could not find any other case of splenic abscess due to brucella in childhood in the literature. Thus especially in endemic regions, splenic abscess should be considered in the differential diagnosis.

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