

Case Report

Brucellosis mimicking enteric fever

Ayşe Erbay, Hürrem Bodur, Esragül Akıncı, Aliye Baştuğ, Mustafa Aydın Çevik

Department of Infectious Diseases and Clinical Microbiology, Ankara Numune Education and Research Hospital, Ankara, Turkey

Abstract

Brucellosis is a systemic infection with multiple presentations. Despite its oral transmission and gastrointestinal pathogenesis, systemic symptoms are usually more prominent than gastrointestinal complaints. We report a patient with enteric fever caused by *Brucella melitensis*.

Key words: enteric fever, brucellosis, *Brucella melitensis*

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Introduction

Enteric fever is a severe systemic illness characterized by fever and abdominal symptoms and most often caused by *Salmonella enterica* serovar Typhi [1]. Although pathogenetically qualifying as an enteric fever, the gastrointestinal manifestations of brucellosis in humans are relatively uncommon [2]. Alimentary tract complaints such as anorexia, nausea, vomiting, abdominal pain, diarrhoea or constipation are elicited in patients with brucellosis [3], but systemic symptoms generally are more common than symptoms localized to the gastrointestinal tract [4]. In this report a case with enteric fever caused by *Brucella melitensis* is presented.

Case report

A previously healthy 16-year-old male resident of a village was admitted with complaints of fever, abdominal pain, vomiting, diarrhoea and skin rash. His symptoms began six days before admission. His initial complaint was fever and the other symptoms developed subsequently. He routinely consumed unpasteurized dairy products.

He had a temperature of 39.9°C, and his blood pressure was 110/60 mmHg with a pulse rate of 96/min. Physical examination revealed abdominal tenderness and hepatosplenomegaly. Maculopapular rashes with a diameter of 1-2mm similar to rose spots were also observed on the trunk and arms. Laboratory investigations showed a low white blood cell (WBC) count of 3000/mm³ (65% polymorphonuclear cells,

31% lymphocytes, 4% monocytes, 1% eosinophils) with hemoglobin 12.6 g/dl, platelet count 44,000/mm³ and erythrocyte sedimentation rate 9 mm/h. Significant biochemical findings include alanine aminotransferase 230 U/l, aspartate aminotransferase 169 U/l, total bilirubin 0.75 mg/dl, direct bilirubin 0.3 mg/dl, alkaline phosphatase 81 IU/l, total protein 6.0 g/dl, albumin 4.0 g/dl and C-reactive protein (CRP) 77.4 mg/dl. Chest X ray was normal. Abdominal ultrasonography confirmed hepatosplenomegaly. In order to determine the cause of abdominal symptoms, direct microscopic examination of a fecal smear was performed that showed prevalent leukocytes. A fecal occult blood test was also positive; however, stool culture revealed no evidence of *Salmonella*, *Campylobacter*, *Yersinia* or *Shigella* infection. An upper gastrointestinal endoscopic examination revealed bulbitis, but a colonoscopy was not performed due to the patient's intolerance.

No positive results were observed in Widal and serological tests for acute viral hepatitis. Serological investigations for *Brucella* revealed an increased serum antibody titer of 1:1280. Subsequently, *Brucella melitensis* was also isolated from blood culture.

The patient was treated with combined therapy of rifampicin (600 mg/d) and doxycycline (100 mg, b.i.d.) for six weeks. Symptoms began to show improvement after the third day of treatment and liver enzyme levels returned to normal in two weeks.

Discussion

Brucellosis is a worldwide zoonotic infection, endemic in the Mediterranean and Middle East regions [3]. Although this infection is transmitted via an oral route, systemic symptoms are usually more prominent than gastrointestinal complaints. This occurrence might be due to the facultative intracellular nature of this pathogen that prefers to localize in organs rich in reticuloendothelial cells [4]. A variety of gastrointestinal complaints have been reported in patients with brucellosis [2]; for example, anorexia has been observed in 25-68% cases, hepatomegaly in 10-87%, splenomegaly in 15-61%, hepatosplenomegaly in 29%, abdominal pain in 6-16%, dyspepsia in 15%, vomiting in 11-15%, diarrhoea in 6-16%, and constipation in 11-18%. However, specific gastrointestinal lesions caused by *Brucella* are sparse [5].

This case was very interesting because the unusual symptoms presented, *i.e.*, fever, vomiting, diarrhoea and skin rash, could be mistaken for typhoid fever. Moreover, initial laboratory data that showed leucopenia, thrombocytopenia, and elevated transaminases with hepatosplenomegaly could have led us to misdiagnose the case.

Conclusion

Brucellosis is an infection with multiple presentations. Therefore, clinical suspicion is required in cases presenting in endemic regions,

especially when there is a history of exposure to animals and their products. This patient with an atypical presentation of brucellosis is reported in order to emphasize that gastrointestinal complaints may uncommonly dominate the clinical picture.

References

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Corresponding author: Dr. Ayse Erbay

Address: Belkis sokak No: 9/9 Kucukesat-Ankara 06660 Turkey

Phone: +905335767096, Fax: +903124305393

E-mail: ayseerbay@gmail.com, aerbay@ttmail.com

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