CASE REPORT

Acute Brucellosis Presenting as Gastroenteritis: Case Report

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Abstract: Brucellosis is a systemic infection with multiple presentations. In spite of its oral mode of transmission and gastrointestinal pathogenesis, systemic symptoms are usually more prominent than gastrointestinal ones. Acute brucellosis presenting as gastroenteritis is rare in adults and could be the only manifestation of the disease. We report a case of gastroenteritis caused by Brucella species.

Keywords: brucellosis, gastroenteritis

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Introduction
Gastroenteritis is an illness caused by many pathogens, including bacteria. Gastrointestinal manifestations of brucellosis in humans are relatively uncommon and may manifest as anorexia, nausea, vomiting, abdominal pain, diarrhea, or constipation, but systemic symptoms, such as arthralgia and myalgia, are more common than localized gastrointestinal symptoms.

This report presents a case with gastroenteritis caused by *Brucella species*.

A previously healthy 21-year-old male presented with a history of 3 days of fever, vomiting, and diarrhea without other symptoms. Fever was accompanied with chills and rigors. He had eaten food at a local restaurant a few days prior to his presentation. He was not known to have any medical illness or other problems before.

A physical examination revealed a temperature of 38.4 °C, respiratory rate of 20/minutes, pulse of 62/minutes, blood pressure of 110/50 mmHg, and no other findings.

Laboratory investigations showed leucopenia: white blood cell count of 2,800/mm³ (64% polymorphonuclear cells, 25% lymphocytes, 6% monocytes, 2% bands, 3% atypical lymphocytes), hemoglobin of 12.7 g/dL, platelet count of 69,000/mm³ and ESR of 52 mm/hour. Other biochemical findings showed Na⁺ 132, ALT 73 U/L, AST 112 U/L, CPK 674 U/L, LDH 417 U/L, amylase, prothrombin time, and partial thromboplastin time were normal, as were other electrolytes and liver function tests. A stool sample was negative for occult blood and *C. difficile*. A blood culture was positive for *Brucella species*, which displayed sensitivity to streptomycin, rifampin, tetracycline, and bactrim. Serum antibody was positive with a titer of more than 1:20480 (N.R.K. 1:80). Monospot test was negative. A stool culture did not grow any bacteria.

The patient was started on oral doxycycline 100 mg twice daily for 6 weeks and streptomycin 1 g intramuscular injection daily for 3 weeks, and started to improve after 5–7 days of therapy. The patient was seen at follow-up in the clinic, was doing well, and was discharged after completing his antibiotic course in a very good condition.

Discussion
Brucellosis is a zoonotic infection that is endemic in the Middle East. In Saudi Arabia, the known incidence rate is 40 cases per 100,000 inhabitants per year. Gastrointestinal manifestation of brucellosis is relatively uncommon. Brucellosis presenting as gastroenteritis is rare in adults and has been reported in sporadic case reports from as early as 1934. Petrella and Young described a case of acute *Brucella* ileitis in 1988. Labrune et al reported recurrent enterocolitis-like symptoms as the possible presenting manifestations of neonatal *Brucella melitensis* infection in 1990. Stermer et al reported a case of brucellosis as the cause of severe colitis in 1991. Locutura et al reported diarrhea as the first manifestation of *Brucella mellitensis* infection in 1998. In children, brucellosis can present as gastroenteritis more commonly than in adults. In one Iranian study it was reported that 11% of cases of brucellosis in children manifested as gastroenteritis. Acute brucellosis as a cause of infective colitis was reported by Mazokopakis et al in 2008. Erbay et al reported brucellosis presenting as enteric fever in 2009.

Our case was very interesting as the presenting symptoms suggested gastroenteritis without musculoskeletal symptoms, and the laboratory findings were similar to that of gastroenteritis; only blood culture and *Brucella* titer led to the diagnosis.

We would recommend that, in any case suggestive of gastroenteritis, the differential diagnosis of acute brucellosis should be considered in countries where brucellosis is endemic.

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Wrote the first draft of the manuscript: SBS. Contributed to the writing of the manuscript: AA. Agree with manuscript results and conclusions: SBS, AA. All authors reviewed and approved of the final manuscript.

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