Anicteric Leptospirosis: A Frequently Forgotten Disease

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Leptospirosis is a zoonotic infectious disease caused by pathogenic spirochetes of the genus *Leptospira*. It is frequently overlooked, and this is particularly the case with its anicteric form. However, an early diagnosis and treatment is crucial for the prognosis of the disease. In this report, we present a case of anicteric leptospirosis. A 35-year-old female presented to the emergency service complaining of fever, myalgia, and abdominal pain. Laboratory investigations revealed thrombocytopenia, elevated total bilirubin, high lactate dehydrogenase, and increased blood urea nitrogen (35 mg/dL) and creatinine (3.3 mg/dL) levels. Subsequently, it was thought that the illness might be leptospirosis according to the patient’s clinical situation and laboratory findings. Also, it was found that the Leptospira microagglutination test was positive leading to the confirmation of leptospirosis. The patient responded well to ceftriaxone therapy. The disease has various clinical presentations ranging from a mild influenza-like form to a severe potentially fatal illness accompanied by multiorgan failure. We have presented a rare case of “Anicteric leptospirosis” and have observed the diagnosis and treatment methods in the light of the available literature.

Keywords: Leptospirosis, complication, renal failure

INTRODUCTION

Leptospirosis is a zoonotic disease occurring worldwide and is caused by the spirochete *Leptospira interrogans*. It can be contagious and be transmitted from an infected animal to a human (1). The bacteria infect humans by penetration through skin, mucous membrane, and conjunctiva. After an incubation period of 2-20 days, it may cause two clinical syndromes-anicteric and icteric leptospirosis (2-3). Clinically, it shows a broad spectrum of clinical manifestations ranging from subclinical infection and self-limited anicteric febrile illness (80%-90% of all cases) to icteric leptospirosis known as Weil’s disease (mortality rate of 5%-10%) (3). Especially, the anicteric form is often forgotten, but an early diagnosis and treatment is important for the short duration of the illness and for the uncomplicated course (3-4). Here we present the case of leptospirosis with thrombocytopenia and renal failure, which is rarely encountered clinically.

CASE REPORT

A 35-year-old female presented to the emergency service complaining of fever, myalgia, and abdominal pain, which had begun 2 days prior. She was farmer and had a history of swimming in a rural area 5 days ago. The patient’s past medical history was unremarkable. The patient was well nourished and in a good general condition. Upon admission, her body temperature was 38°C, heart rate was 120 beats/min, respiratory rate was 18 breaths/min, and blood pressure was 100/60 mmHg. Tenderness was present in the right lower quadrant. There was no organomegaly. Initial laboratory studies revealed a white blood cell (WBC) count of 3×10^3/mm^3 (normal range: 4.5×10^3–11×10^3), hematocrit level of 34.5%(normal range: 39.5-50.3%), and platelet count of 128×10^3/mm^3 (normal range: 159×10^3–388×10^3). The blood biochemical test results were as follows: blood urea nitrogen, 35 mg/dL; creatinine, 3.3 mg/dL; aspartate aminotransferase, 1764 IU/L; alanine aminotransferase, 1562 IU/L; lactate dehydrogenase, 678 IU/L; total/direct bilirubin, 2.08/1.12 mg/dL; creatine kinase, 660 U/L; C-reactive protein, 8 mg/L; and amylase and lipase, within normal limits. The urinalysis revealed (++) proteinuria and no pyuria, bilirubinuria, or hematuria. Chest radiography showed no significant finding. Minimal collection was present in the pelvic region on ultrasonography. Human immunodeficiency virus and hepatitis A, B, C, and E serologies showed no acute infection. Rubella IgM and cytomegalovirus IgM antibodies were negative; Gruber–Widal and Wright serologies were negative. Direct and indirect Coombs tests were negative. The patient was admitted to the intensive care unit with an initial diagnosis of leptospirosis and multiorgan failure. The patient was treated with...
The diagnosis of human leptospiral infection relies on either the isolation of the causative organism from body fluids or the demonstration of a rise in specific serum antibodies. Isolation is difficult and not always successful, and the detection of leptospires in body fluids using dark-field microscopy is limited owing to proteinaceous filaments (pseudoleptospires) (11). The microscopic agglutination test (MAT) is the reference test for diagnosis and detects antibodies at serovar levels (12). In our patient, we diagnosed leptospirosis using MAT.

Leptospirosis can be treated only if it is diagnosed early to avoid complication. An untreated patient condition can develop a more severe disease, and this can be potentially fatal. Treatment with antibiotics should be started before confirming whether a patient has leptospirosis. This is because the test results and subsequent diagnosis may take longer time to process, and the condition of the patient can become more serious. Several antibiotics are used to treat this disease, such as ampicillin, ceftriaxone, doxycycline, and penicillin (13).

CONCLUSION

Leptospirosis is a fatal disease. Antibiotics and supporting treatments should be used for the patients immediately. If the disease is not treated appropriately within the early days, it may progress in severity. It should be considered especially for the patients with fever; thrombocytopenia; elevations at transaminases, creatine kinase, and bilirubin; and/or impairment of kidney function tests. Early diagnosis and treatment can reduce mortality.

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REFERENCES


