Human brucellosis in Rio Grande do Norte, Brazil

Mendes Neto NN1,2,*, Da Silva Maia JT1, Zacarkim MR2, Ferreira AC1, Costa TR1, Borges L1 and Queiroz IT1

1University Potiguar, Brazil
2Harvard Medical School, Boston, USA
3University of California, Davis, Davis, CA, USA

Abstract

Background: Brucellosis or Malta fever is a zoonotic disease caused by intracellular coccobacilli gram negative aerobic of the genus Brucella. Although it being transmitted to humans since 1859, the correct diagnosis and treatment are challenging. Brucellosis is prevalent in males, farmers and laboratories professionals. The human Brucellosis is most commonly transmitted by the consumption of raw dairy products, aerosol inhalation or direct contact with infected animal.

Methods: Data were obtained through medical records review, physical examination findings and laboratory results.

Case: A 64-year-old male farmer presented to the infectious disease department with a 30-day history of moderate fever, asthenia and appetite loss. Previously diagnosed with rheumatoid arthritis, he was in chronic use of prednisone (10 mg/day). In addition, he was using glibenclamide and losartan for diabetes mellitus and hypertension, respectively.

Posterior to hospital admission, he had been unsuccessfully treated with empirical intravenous antibiotics (ceftriaxone, metronidazole, gentamicin, oxacillin). After three weeks of hospitalization, the patient reported dry cough and abdominal pain in the right upper quadrant. The clinical investigation turned to the suspicion of brucellosis when the patient detailed his daily cow’s milk consumption and direct contact with goats. Therefore, serology revealed the presence of high level of antibody against Brucella, being positive for the IgM fraction. He initiated treatment with rifampicin and ciprofloxacin in the following 6 weeks. As his condition improved, he was discharged and referred to an outpatient clinic, remaining asymptomatic.

Results: There are few academic publications focused in brucellosis in the medical field. Considered an occupational disease, human Brucellosis remains a common disease in rural areas. Due to the lack of specific symptoms, its diagnostic requires extensive knowledge in infectious diseases and epidemiology.

Conclusion: This case highlights the importance of brucellosis serology, as well as preventive programs and educational interventions. The provision of diagnostic tests in endemic regions might enhance the probability of diagnosis and facilitate the effective treatment of human brucellosis worldwide.

Introduction

Brucellosis or Malta fever is a zoonotic disease caused by intracellular coccobacilli gram negative aerobic of the genus Brucella. The bacterium preferentially replicates within phagocytic cells of the reticuloendothelial system, and in the pregnant animal, inside placental trophoblasts [1]. In Brazil, brucellosis was first detected in 1913 [2]. Although it still being transmitted to humans, the correct diagnosis and treatment still challenging.

Brucellosis is prevalent in males, farmers, butchers and laboratories professionals [3]. The human brucellosis is most commonly transmitted by the consumption of raw dairy products, aerosol inhalation or direct contact with infected animal [4]. Bovine Brucellosis is the most common form of this disease, so this zoonosis is mainly linked to the professional activities that deal with cattle. The aim of this study is to report a case of brucellosis in a man from Rio Grande do Norte, Brazil.

Case report

A 64-year-old male farmer presented to the infectious disease department with a 30-day history of moderate fever, asthenia and appetite loss. Previously diagnosed with rheumatoid arthritis, he was in chronic use of prednisone (10 mg/day). In addition, he was taking glibenclamide and losartan for diabetes mellitus and systemic arterial hypertension, respectively. Posterior to hospital admission, he had been unsuccessfully treated with empirical intravenous antibiotics (ceftriaxone, metronidazole, gentamicin, oxacillin). After three weeks of hospitalization, the patient reported dry cough and abdominal pain in the right upper quadrant. The clinical investigation turned to the suspicion of brucellosis when the patient detailed his daily in nature cow’s milk consumption and direct contact with goats. Therefore, serology revealed the presence of high level of antibody against Brucella, being positive for the IgM fraction. He initiated treatment with rifampicin and ciprofloxacin in the following 6 weeks. As his condition improved, he was discharged and referred to an outpatient clinic. He remained asymptomatic six months following the treatment.

Discussion and conclusion

There are few academic publications focused in brucellosis in the medical field.

Considered an occupational disease, human brucellosis remains a common disease in rural areas. On the other hand, in endemic areas, many people are seropositive for brucellosis, but never showed clinical symptoms. Symptoms of brucellosis is often unspecific as any organ

*Correspondence to: Nilson N. Mendes, University Potiguar, Brazil, Tel: +55 84 3227-1234; E-mail: doctornmendes@gmail.com

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or tissue may be affected by Brucella [5]. This zoonotic disease has a broad clinical presentation, ranging from asymptomatic condition to severe and/or fatal illness. Due to the lack of specific symptoms, its diagnostic requires extensive knowledge in infectious diseases and epidemiology. So many cases fit as fever of unknown origin. Brucellosis has an incubation period raging from two to three weeks [2]. The classic triad including fever, intense sweating and pain (polyarthralgia and/or myalgia and/or headache) is the most common clinical presentation. Other symptoms such as anorexia, asthenia, constipation, nausea, vomiting, dry cough, depressed mood, sleep disturbances, and weight loss may be present [5]. The laboratory findings should be interpreted together with clinical findings, exposure history, occupation, and history of past infection [6]. Even though Human Brucellosis is not an opportunistic infection in patients infected with HIV, it has been an important cause of economic loss and a public health problem in many developing nations. Prevention of Human Brucellosis depends on the control and eradication of the disease in animals. Currently, there is no effective and safe vaccine for use in humans [7]. Its development is highly important for the prevention of Brucellosis. Due to infected animals excrete Brucella in urine, milk and placenta, Brucellosis may be prevented via vaccination of farm animals and pasteurization of milk [6]. In addition, personal protective equipment should be used to prevent exposure to etiological agent.

This case highlights the suggestion of preventive programs, educational interventions and provision of diagnostic tests for brucellosis in endemic regions. This might enhance the probability of diagnosis and facilitate the effective treatment of human Brucellosis.

Consent

The patient described in the case has given informed consent for the report to be published.

References

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