

Brucella disease presenting with hypercalcemia medical case report

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Abstract

Brucellosis is a public health problem that is prevalent in several developing countries. Brucellosis is a disease that commonly afflicts herbivores and can result in abortions as well as the loss of milk and meat production in animals. This disease is an endemic zoonotic by *Brucella* species bacteria. Diagnosing brucellosis is difficult due to the nonspecific signs and symptoms of the disease. According to the duration of the symptoms, brucellosis can be categorised as acute, subacute or chronic. A 72 year old female patient complained of generalized fatigue, and laboratory findings revealed hypercalcemia. This paper reports a case of hypercalcemia due to *Brucella* disease.

Keywords: brucella, hypercalcemia, infection

1. Introduction

Hypercalcemia is a metabolic disorder with an elevated blood calcium (Ca) value. The primary cause of hypercalcemia is primary hyperparathyroidism and malignancy [1-3]. It affects patients more than 65 years of age and is more common in women [3]. Brucellosis is a common zoonotic disease in our country. It is common in people who consume milk and dairy products freshly and in close contact with animals. Fever, arthritis, lymphadenopathy and splenomegaly are the most common clinical findings. Many systemic complication may occur secondary to brucellosis [4]. *Brucella* infection is one of the granulomatous diseases and a rare condition in the etiology of hypercalcemia.

2. Case Presentation

A 72 year old female patient admitted to hospital with loss of appetite, dry mouth, non specific arm pain and insensitivity. The patient was complaining of pain in the joints, fever and weight loss for the last month. It was observed palpable lesion in the neck in the examination. Vitals at the hospital were temperature 38.4°C, heart rate 90/minute, blood pressure 110/70 mm Hg, respiratory rate 20/minute, and SpO₂%98 on room air. Laboratory analysis were as follows; hemoglobin(Hgb): 10.9 g/dL, white blood cells (WBC): 9000/mm³, platelet: 240000/mm³, urea: 35 mg/dL, creatinine: 0.9 mg/dL, sodium (Na): 136 mg/dL (136-146 mg/dL), potassium (K): 4.4 mg/dL (3,5-5,5 mg/dL), calcium (Ca): 15.4 mg/dL (8.5-10.5 mg/dL), erythrocyte sedimentation rate: 111 mm/hours, C Reactive Protein: 78 mg/L. Ultrasonography (US) showed axillary lymphadenopathy with marked cortical thickening. Excisional lymph node biopsy was planned for the etiology of the patient with anormal weight loss, hypercalcemia and excessive sweating. Biopsy revealed non specific reactive hyperplasia. The serological tests were positive for Rose Bengal plate test and the Wright agglutination test was positive in 1/160 titration. The patient was diagnosed with brucellosis. She was treated a combination therapy of

rifampicin and doxycycline. It was determined that lesions were regressed at first month visit during follow-up.

3. Discussion

Brucellosis is a multisystem disease with a broad spectrum of non-specific symptoms that generally occur within one month but sometimes up to 3 months after inoculation. In human, it developed as a result of consuming unpasteurized, contaminated goat's milk or soft cheese that had been infected with *Brucella melitensis* [5-7]. Brucellae are Gram negative, aerobic, uncapsulated coccobacilli, which are the commonest cause of zoonotic infections worldwide. Brucellosis can involve any organ or system of the body. It may present many symptoms or signs in the organs. Hypercalcemia may occur secondary to brucella infections among electrolyte disorders. Casein granulomatous formations in the pathogenesis of the disease as a result of an excessive synthesis of vitamin D leads to high levels of Ca in the patient's serum [8]. In this respect, brucellosis should be included in the differential diagnosis in patients followed up for hypercalcemia. In our case report, brucellosis was diagnosed with hypercalcemia. The standard treatment for human brucellosis is doxycycline and rifampicine for six weeks. The patient's control examination showed a severe regression at the clinical and Ca value.

4. Conclusion

Hypercalcemia may be caused by parathyroid gland pathologies and may occur due to brucella infection. Differential diagnosis of these patients should be made carefully. This is an interesting case study, where the authors report on human infection by *B. melitensis* which is helpful for clinical diagnosis and treatment.

5. References

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