A Rare Case of Prostatic Brucellosis Mimicking Prostate Cancer

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INTRODUCTION

Brucellosis, with 500,000 new cases occurring annually is one of the most common zoonotic diseases in the world.(1) In Turkey its incidence is 0.59/100000 and seropositivity rate is 1.8% in the healthy population.(2) Incidence of the disease is high among the people who live in rural areas, consume raw milk and dairy products, livestock raisers, farmers, veterinarians, butchers and laboratory workers. The clinical features of brucellosis depend on the stage of the disease, and the organs and systems involved. Brucella has been reported to compromise the central and peripheral nervous system, and the gastrointestinal (GI), hepatobiliary, genitourinary (GU), musculoskeletal, cardiovascular and integumentary systems.(3) Osteoarticular involvements are the most common complications of human brucellosis. Osteoarticular manifestations (sacroiliitis, spondylitis, peripheral arthritis and osteomyelitis) account for over half of the focal complications. GU complications (epididymo-orchitis, prostatitis, glomerulonephritis and renal abscesses) can be found in about 1-22 % of patients. Epididymo-orchitis is the most common presentation of GU involvement due to brucellosis.(4) Brucellosis as a cause of prostatitis is quite rare, it is only reported as a few case reports in the literature.(5) In this case report diagnoses and treatment of prostatitis cases of brucellosis are discussed.

CASE REPORT

A 50 years old male patient who is dealing with the slaughterhouse livestock sector, with no previously known disease and no history of surgical procedure, with almost 3 months low back pain, left-sided chest pain, loss of appetite, weight loss, intermittent fever heights, and for the last one month with complaints of dysuria, pollakiuria, nocturia, and difficulty in urination applied to our clinic. Physical examination revealed, International prostate symptom score (IPSS) of 17, prostate volume on transrectal ultrasonography (TRUS) 40 mL, digital rectal examination grade 1 positive and there was a 1 × 1 cm nodule in the right lobe, and normal vital signs. Laboratory investigations revealed, serum total/free prostate specific antigen (PSA) level of 9.1/1.19, white blood cell 9800/mm^3, C-reactive protein, 17 mg/dL, erythrocyte sedimentation rate 51 mm/h, alkaline phosphatase 185 U/L and blood chemistry and urine examination were normal. Transrectal ultrasound-guided 10 cores prostate needle biopsies were taken from the patient. Pathologic examination demonstratedhyperplastic prostate aciniwith widely stromal lymphocyte infiltration (benign prostatic hyperplasia). At 12th hour after prostate biopsy patient developed fever (39^{o}C) and consultation with an infectious diseases specialist was requested. Blood cultures which analyzed using an automated system (Organon Tecnica BacT/Alert BioMerieux, France) and urine cultures were taken by infectious diseases specialist's recommendation, then the meropenem therapy was started. The patient's urine culture was negative, but gram-negative coccobacilli yielded in the blood cultures at the 4th day. The bacterium was identified as Brucella spp. by conventional laboratory methods.(6) The patient's serum sample was tested by Wright agglutination test using B. abortus S99 antigen (Pendik Veterinary Institute, Istanbul, Turkey) for brucellosis. Sample dilutions started from 1/10 for Wright agglutination test. Patient's Wright agglutination test was positive at 1/640 titer.The patient was transferred to the infectious diseases clinic with the diagnosis of brucellosis. As the results, meropenem was stopped and then doxycycline 100 mg (twice daily) and rifampin 600 mg (once in a day) were started per orally and his fever begin to reduce. Abdominal ultrasonography and lumbar magnetic resonance imaging (MRI) were performed because the patient had low back pain. Abdominal ultrasound showed no pathology other than hepatomegaly. In the lumbar MRI, at the range of L1-L2, was suspicious for discovertebral infection and an 8 mm abscess in the left psoas wasseen. Streptomycin 1 g (once in a day) intramuscularly was added to the treatment because of abscess in the psoas. Due to the lack of follow-up problem, the outpatient antibiotic therapy was planned as doxycycline and rifampin for 3 months and streptomycin for three weeks. The patient was discharged by infectious diseases clinic with planning the control by urology and infectious diseases clinics after 3 months.

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DISCUSSION

Brucellosis is endemic in Turkey; especially it has a higher incidence of people who live in rural areas, consume raw milk and dairy products, livestock raisers, farmers, veterinarians, butchers and laboratory workers. Disease transmission shape is usually unpasteurized dairy products and infected animal products. Nonspecific symptoms such as fatigue, weight loss, headache, loss of appetite and night sweats are seen. Histologically, they cause the non-caseified granulomatous inflammation. The World Health Organization criteria for the diagnosis of brucellosis with the symptoms are Brucella standard tube agglutination test of ≥ 1/160 titers or growth of bacteria in blood or bone marrow cultures.[5] Also in our patient, we diagnosed with the presence of Brucella spp. in blood cultures and determination of 1/640 titers at agglutination tube test. Because of the course of multisystem involvement and the emergence of different clinical manifestations, the diagnosis of brucellosis may be difficult. Genitourinary system involvement in brucellosis is between 1-22%, most frequently in the form of epididymo-orchitis.[4]

In our patient, as stated by Colmenero and colleagues[7] there are symptoms such as fever, arthralgia, loss of appetite with the genitourinary system involvement but no statement of epididymo-orchitis. Serum PSA level, the most widely used diagnostic marker for prostate cancer (PCa) beside prostatic carcinoma, the prostatitis case is the one of the benign factors that can increase serum PSA levels.[8] As in the case of our patient, Brucella-induced prostatitis may be considered in the differential diagnosis of PCa that is a rare condition.[9,10] In rectal examination nodularity was palpated in our patient, the ratio of total/free serum PSA values was 9.1/1.19, and serum PSA density was 0.26 ng/mL, therefore according to the normal serum PSA level for patient's age (0-3 ng/mL), the presence of PCa should be ruled out. Prostate biopsy was done by taking 10 coresfrom prostate. There was no PCa in pathologic examination. After prostate biopsy patient developed fever. Also, blood cultures confirmed brucellosis induced prostatitis. Prostate discharge culture or tissue culture has not been done, but the brucellosis was detected by agglutination tests and in blood culture. Treatment with doxycycline and rifampicin improved signs of infection and fever.

With this case introduction, in areas such as Turkey, which brucellosis is endemic, both in the differential diagnosis of prostatitis and in the cases in which prostatic carcinoma is investigated because of the rise of PSA, by taking a detailed history of the patient, on the clinical suspicion case, because of fact that the Brucellosis infection can rarely cause this condition, brucellosis possibility should not be ignored in differential diagnosis.

CONCLUSION

The most common manifestation of brucellosis in urogenital systemis epididiymo-orchitis and should be considered in differential diagnosis of prostatitis.

CONFLICT OF INTEREST

None declared.

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