

Development of Severe Fever due to Brucellosis after Cesarean: Case Report from Iran

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Abstract

Background: Brucellosis, a zoonotic disease caused by *Brucella spp.*, is an endemic infectious disease in many developing countries that causes significant economic loss. **Case Report:** Here, we would like to report an unusual case of human brucellosis; a 32-year-old woman who was undergone cesarean and immediately became febrile after operation. An unusual cause of post-operative fever was diagnosed brucellosis by using serologic tests. She had been treated with a combination of antimicrobials with significant clinical improvement. **Conclusion:** Obstetricians in endemic areas such as Iran should consider brucellosis as an unknown cause of fever.

Keywords: Brucellosis, Cesarean Section, Fever, Iran, Pregnancy, Zoonoses.

Introduction

Brucellosis, one of the major zoonotic disease, has become the world's most common bacterial disease especially in Mediterranean region and Middle Eastern countries with over 500,000 new cases annually [1,2], responsible for high morbidity in infected people [3]. All parts of Iran are endemic for disease [4] and prevalence of the disease varies between 0.5% to 10.9% in different provinces [5]. Human *Brucella* (B) is a genus of Gram-negative *Coccobacillus* from the distinct genus caused by *B. melitensis*, *B. abortus*, *B. canis* and *B. suis* [3,6]. Brucellosis is transmitted to humans by consumption of unpasteurized dairy products or direct contact with infected animals particularly aborted fetuses and placentas [7].

It is a multi-systemic illness, with a broad clinical spectrum, ranging from asymptomatic chronic infection to severe or deadly disease [8-10]. *Brucella* infection is rare during pregnancy but may be associated with abortion, premature

delivery, chorioamnionitis and intrauterine fetal death (IUFD). Incidence in pregnant women was reported about 1.3-12.2% in endemic regions [1,11]. Delay in diagnosis and treatment of this disease accompanied with pregnancy is common because of numerous unspecific symptoms [9,11]. In this paper, we report a case of pregnant woman with fever after cesarean due to brucellosis.

Case Report

We present the case of a 32-year-old pregnant woman with term breech delivery who had fever after caesarean delivery. She was referred to county hospital (Bojnurd) for elective caesarean section. Prior to the caesarean cephazolin was administered as the routine care for the disease. A healthy infant was delivered. On the first post-operative day, the patient developed a fever ranging from 38-39.5°C and treated by clindamycin (600 mg/kg/3 times daily) and gentamicin (1.5 mg/kg/day). On the complete examination the origin of fever was not diagnosed and she showed no response

to the mentioned treatment. She was transferred to infectious diseases ward and examined for brucellosis but all serology results were negative. Her treatment was changed to broad-spectrum antibiotics including: clindamycin, ceftriaxone, and ampicillin. Three days post-operative, fever continued and her caesarean wound remain unhealed. Prolonged serous discharge, without purulent, was seen in the unhealed caesarean wounds incision. Wound dehiscence was obvious; therefore, fascia was sutured and skin was released without any stitches; there was no malodorous discharge. Due to opening the fascia and continuing fever uterus was suspected to be source of infection. Therefore, at the same time hysterectomy and fascia stitches were done. Recovery was satisfactory for the initial ongoing days. A few days later she returned to the same hospital with severe arthralgia, fever, chilling and sweating. The patient was hospitalized for etiological investigations. Abdominal ultrasonography, abdomino-pelvic computed tomography (CT), complete blood count (CBC), erythrocyte sedimentation rates (ESR) were in normal range but C-reactive protein (CRP) was positive. Due to symptoms of fever and arthralgia, there was a great suspicion toward brucellosis. The serology testes for brucellosis were repeated again. All the serology tests including: serum standard tube agglutination test (Wright), Coombs Wright anti-Brucella and 2-mercaptoethanol (2ME) were positive. Wright was positive at a titer of 1/80, Coombs Wright was 1/1280 and 2ME was 1/640. Treatment was done successfully with rifampicin (300 mg twice daily), doxycycline (100 mg, twice daily) and streptomycin (1g, once daily). During treatment symptoms improved, fever completely stopped, and finally wound healed.

Discussion

Human brucellosis is still one of the main challenging health problems in the Middle eastern countries like Iran that can lead to severe disabilities if it is ignored [12]. There is still controversy about the relationship between

brucellosis and the outcome of pregnancy [13,14]. Clinical features of the disease in pregnant women are non-specific, ranging from asymptomatic to repeated classical episodes of extreme sweating, fever, and sometimes severe vaginal bleeding [13-15]. Classical symptoms of brucellosis like fever in pregnant women may be mis-diagnosed and lead to disease mis-management [9]. Reports on brucellosis in pregnant woman are scarce especially with non-specific symptoms such as fever [11]. Although brucellosis could cause spontaneous abortions in human [11], fortunately, in our case a healthy infant was born.

Based on our patient's declaration she had history of sweating and joint pain without fever during pregnancy but she has not given attention. On the first post-operative day the patient was febrile and suffered from non-healing caesarean incision. This situation was constant for weeks and she failed to recover. Many tests were performed and eventually by using simple serology tests the disease was diagnosed. The principal points of current case report were that brucellosis should be considered in pregnancy and it should be in the routine evaluations for ruling out the infection. In this case, if the obstetrician and surgeon had been aware of this infection, the serum indicators of brucellosis could have tested to detect the brucella and the treatment could have been initiated prior to the hysterectomy. Therefore, increased awareness concerning brucellosis in pregnant women, its transmission, and prevention measures should be considered as a pressing need.

Conclusion

Brucellosis must be kept in mind that can cause fever in pregnancy and the disease during pregnancy should be considered a significant risk factor for adverse pregnancy outcomes in humans. Therefore, all obstetricians in endemic areas should consider brucellosis as an unknown cause of fever. We also recommend the routine simple tests of Wright, Coombs Wright and 2ME in all pregnant women who have unknown fever.

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