

Breast feeding transmission of brucellosis

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ABSTRACT

Background: Brucellosis is a common zoonosis disease which affects both humans and animals. Common symptoms of brucellosis are: fever, sweating, weakness, lethargy, loss of appetite and arthritis.

Patient: The patient was a 3.5 month infant with irritability, loss of appetite and immobility of left hip joint since 10 days ago. There was no medical problem during fetal and neonatal period of his life. The infant nutrition was provided by breast feeding. About one month ago his mother has been treated as a brucellosis patient but because of disappearance of her symptoms (pain, knee edema) she stopped her treatment ahead of schedule. In physical exam of the infant his growth and developing indices were normal but there was hypersensitivity in his left hip joint. The important laboratory results were as follows: leukocytosis, Wright=1/640, Coomb's Wright=1/1280 and 2ME=1/160. His disease diagnosed as brucellosis transmitted by lactation and he was treated with co-trimoxazole and rifampin. Breast feeding was discontinued and he was fed with formula thereafter. After a few days all symptoms disappeared and he discharged in a good condition.

Conclusion: Applying serologic tests for infant whose mother is suspected of brucellosis seems logical.

Keywords: *Brucellosis, Arthritis, Wright test, Breast feeding*
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INTRODUCTION

The brucellosis inducing microorganisms have 6 species which 4 species including *Brucella mellitensis*, *B.abortus*, *B.swiss* and *B.canis* are pathogens for human (1). Brucellosis is more common in animal and occurs in human by chance (2). Oral contamination is a way for entering the microorganism in body but, eyes and respiratory mucosa could be the others. Transmission of the microorganism through inhalational way is done by hydrosols of body tissue (1). Breast feeding transmission of brucellosis is reported (3). *B.mellitensis* and *B.abortus* are the most common

types in human (4). There is no accurate statistical information in the world about brucellosis but it seems that its incidence is high and is 4.4 per 100,000 in USA. Argentina, Mexico and Peru have the highest rates (4-6). Brucellosis symptoms are like Influenza and Leukemia (1-7) and appear unexpectedly and suddenly with continual or alternative fever (4). Brucellosis latent period is between 1-3 weeks till several months (7,8). The most common symptoms are: fever, weakness, chills, perspiration, myalgia, arthralgia, arthritis and weight loss. In most patients, especially the youngest, adenoid hypertrophy, splenomegaly, hepatomegaly and sometimes icter have been shown (9,10). The accurate way for diagnosis is isolation of the microorganism which is difficult

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and takes a long time, therefore Wright, Coombs Wright and 2ME tests should be used. Disease transmission from patient to patient is rare, but according to the reports it is possible by placenta and also by breast feeding (3). On the aspect of age, the incidence of the disease is common in adults especially when they work with animals in rural areas (4). In urban areas contamination occurs indirectly and by unpasteurized milk or cheese (1, 4).

CASE PRESENTATION

The patient was a 3.5 month infant that had pain and sensitivity in his left hip joint during active or passive motions and also during changing nappies since 10 days ago before he was brought to Shahrood Imam Hussein hospital. His mother said from several days ago he was so irritable and he was crying when she tried to change his nappy. His limb was immobile. He was the first child of his parents and his history of birth was as follows:

The kind of delivery: caesarian section because of breech position

APGAR: 9\10

Appearance: no cyanosis or icter

Mode of feeding: Breast feeding

Weight: 3400 g

Height: 52cm

Circumference of head: 34cm

His mother had no problem during her pregnancy and she was cared by health center in her village. She didn't consume any pill during pregnancy but from 40 days ago she complained of pain and arthritis in her left leg so was treated because of brucellosis. After resolution of her symptoms she stopped her treatment and ahead of schedule.

In physical exam the infant was pale and his limb was immobile and sensitive in touch. He had mild fever (38.3°C axillary), dry mucosa, slight splenomegaly but a normal liver. All results of

laboratory tests are shown in table 1. According to the tests, the patient had brucellosis so he was treated with co-trimoxazole plus rifampin, and his breast feeding was discontinued and he was fed by formula thereafter. After a few days all symptoms disappeared and his limb motion became normal. About 3 weeks later his laboratory tests were repeated and titers of his Wright and 2ME decreased.

Table 1. Laboratory results of the patient

Examinations	Results
White blood cell (/mm ³)	13600
Hemoglobin (g/dL)	12
Hematocrit (%)	35
Blood culture after 72h	Negative
Urine culture	Negative
Urinalysis	Normal
Wright titer	1/640
Coombs Wright titer	1/1280
2ME titer	1/160
Widal test	Negative
Blood sugar (mg/dl)	75
Blood urea nitrogen (mg/dl)	35
Creatinin (mg/dl)	1.1
Na (mmol/l)	140
K (mmol/l)	4.5
Ca (mg/dl)	9.6
P (mg/dl)	4.3
Alkaline phosphatase (u/l)	140
ESR 1h (mm/h)	26
ESR 2h (mm/h)	34
C-reactive protein	Negative

DISCUSSION

Brucellosis is one of the most common diseases in animals. Humans occasionally become ill because of having contact with infected products of animals or by consuming them (2). Incidence of brucellosis is different in various areas but there is not any accurate reported global statistics (5,6).

The disease is mostly seen among slaughterhouse workers (3). Inhalational transmission is also reported that occurs in slaughterhouses and ranches (11-12). DeBess reported that placenta can transmit the disease (13-14). Shehabi's report shows transmission by lactation (15). The most common symptoms include: fever, weakness, weight loss, arthralgia and arthritis (8-10). The dominant symptoms in younger patients are arthritis, loss of appetite and fever (16). According to the symptoms and serologic results in the case reported, the suitable diagnosis was brucellosis due to lactation. Mothers with brucellosis, who want to breast feed their babies, should complete their treatment and should stop their lactation until the end of the treatment. We prefer to check infant's serologic tests when his or her mother is suspected to have brucellosis.

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