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CASE REPORT

Congenital brucellosis in an infant

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ABSTRACT

Background: Brucellosis is a zoonotic disease involving several organs with different presentations. It is primarily a disease of animals. Human infection is usually acquired by close contact with infected animals or consumption of unpasteurized dairy products. The major reservoirs include goat, sheep, swine and cattle. Human to human transmission of brucellosis is a rare entity, especially perinatal transmission. This report is introducing congenital transmission of brucellosis.

Patient: A pregnant woman with brucellosis referred when she was on 32nd week of gestation. She transferred brucellosis to her off-spring due to inappropriate therapy. After definite diagnosis, a standard treatment was commenced and they were doing well while relapse was not seen.

Conclusion: Brucellosis can be transmitted perinatally, although it is a rare entity. A combination of rifampin and trimethoprime-sulfamethoxazole can be safely prescribed for brucellosis during pregnancy, except for the first trimester and the last 2-4 weeks of pregnancy.

Keywords: *Brucellosis, Prenatal transmission, Treatment.*
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INTRODUCTION

Brucellae are facultative intracellular, small, non-capsulated, aerobic, non-spore-forming, non-motile gram-negative coccobacilli. They are difficult to cultivate because of their slow growing nature and their requirement for special media and high CO2 tension (1-3). Human to human transmission is rare, but has been reported in association with blood transfusions, bone marrow transplantation, transplacental or perinatal exposure (1,2,4,5) and possibly postnatally, during breast feeding (4,6). Although infected pregnant animals transfer brucella to their off-spring transplacentally with resultant massive wastage of conception, this mode of transmission and resultant interference with the normal course of pregnancy has been disputed in humans (4). Brucellosis affects humans in all age groups and both genders (1,3). Signs and symptoms include fever, arthralgia and arthritis, sweating, headache, malaise, nausea and vomiting, lymphadenopathy, hepatosplenomegaly, anorexia and weight loss (1-3).

Positive blood or bone marrow culture are definite diagnosis but serologic tests (wright and 2-Mercapto Ethanol, 2ME) are the commonest diagnostic methods (1,3). Tetracycline or doxycycline, in combination with streptomycin or

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gentamicin are recommended therapies in older children or adults (1,3). Because of the untoward side effects of tetracycline and doxycycline in children younger than 10 years of age, alternate regimens have been considered and a variety of drugs can be used safely, for example a combination of rifampin and trimethoprim-sufamethoxazole (1-3).

PATIENT

A 28-year-old woman referred during her 32nd week of pregnancy with malaise, fever, low back pain, night sweating, arthralgia and anorexia. She lived in rural area and took care of goats and sheep. Complete blood count (CBC) revealed mild neutrophilia. Standard tubal agglutination titer was 1/320 (Wright test). Treatment with rifampin was commenced. Six weeks later she delivered vaginally, a viable 38-week 2800-g female infant. Following the deliver, her signs and symptoms remained, possibly due to the inappropriate therapy. Meanwhile, her 25-day infant had fever, poor feeding, failure to thrive and splenomegaly. Therefore, they referred for further investigation. Wright and 2-ME tests were carried out and results were 1/1280 (Wright) and 1/640(2ME) for mother and 1/160 and 1/80 for infant, respectively.

They were treated with oral rifampin and trimethoprim-sufamethoxazole for 8 weeks. Twenty days later, blood culture grew brucella melitensis. After five days, the infant's signs and symptoms subsided and her appetite increased. After 12 days, she was wellbeing and gained weight about 150gr. They were discharged after 2 weeks of hospitalization and treatment continued for another 8 weeks. Blood cultures of infant several days after completion of therapy were negative. She was last visited at our developmental follow-up clinic at 3 months age and was doing well. Her neurodevelopment and physical growth were normal for her adjusted age.

DISCUSSION

There are scanty cases of proven congenital brucellosis in live born infants (2,4). In our case, a mother with documented bacteriologic evidences of brucellosis went into term labor. This made diagnosis easy, however, infantile brucellosis is a matter of controversy. Disease presentation in children is usually nonspecific. Differentiation between brucellosis and other bacterial infections in the newborn can be difficult. Furthermore the neonatal immune system is immature, the response to well-characterized infective processes varies from that described in older children and hence clinical manifestations may differ. Fever, arthralgia, headache, night sweating, abdominal pain, loose stool, skin rash, nausea and vomiting, malaise, poor feeding, failure to thrive (FTT), hepatosplenomegaly and distended abdomen are probable signs and symptoms. Definite diagnosis in infant could be verified based on separating etiologic agent since maternal IgG exists in infant serum till 6 months after delivery.

For treatment, we prescribed a combination of rifampin and trimethoprime-sulfamethoxazole. Therapeutic approach for brucellosis during pregnancy is a challenging concern. The choice regimen in pregnancy is a combination of rifampin and trimethoprim-sufamethoxazole, but trimethoprim-sufamethoxazole is contraindicated in first trimester and the last 2-4 weeks of pregnancy (1). During the first trimester, third generation cephalosporins have been used. In the last month of pregnancy, combination of aminoglycosids (gentamycin) and rifampin is an alternative regimen with cautious (2).

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