CASE REPORT

Chorioamnionitis due to *Arcanobacterium haemolyticum*

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ABSTRACT

Chorioamnionitis can result either from the ascending of organisms from vagina after rupture of membrane or via the blood stream. This report describes a case of chorioamnionitis caused by *Arcanobacterium haemolyticum*, an unusual causative agent of chorioamnionitis. This is a case of a 22-year-old second gravida who was admitted for safe confinement at 34 weeks of gestation due to polyhydramnios. Passing of yellowish, foul smelling discharge intermittently was noticed. *A. haemolyticum* was isolated from amniotic fluid. Chorioamnionitis can result in significant maternal and fetal mortality and morbidity. Hence, it is important to ascertain the prompt diagnosis and treatment of suspected cases.

Key words: *Arcanobacterium haemolyticum*, chorioamnionitis, premature rupture of membranes

INTRODUCTION

Chorioamnionitis is an infection of two membranes of the placenta (the chorion and the amnion) and the amniotic fluid that surrounds the baby.[1]

Arcanobacterium haemolyticum, an aerobic, slowly growing, catalase-negative Gram-positive bacillus, has been reported as an infrequent cause of peritonsillar abscess, pharyngitis, and tonsillitis in children and young adults.

Risk factors for the development of this infection remain to be identified. It is frequently a component of polymicrobial infection.[2] The organism, moreover, has been isolated from patients with chronic skin ulcers, soft tissue infections, deep tissue abscesses, meningitis, pneumonia, endocarditis, and bacteremia.

CASE REPORT

A 22-year-old second gravida at 34 weeks of gestation was admitted for safe confinement due to polyhydramnios. After 2 days of admission, the patient had labor pain and membrane ruptured following per vaginal examination. The discharge was yellowish and foul smelling. Fetal movements were noticed well by the patient. On examination, the patient was afebrile with uterine tenderness, heart rate was 100/min, and blood pressure was 120/80. Ultrasonography showed polyhydramnios. The hemoglobin and total leucocytes count were 9.0 and 10,000, respectively, at the time of admission. All other routine investigations (blood sugar, serum electrolytes, urea, and creatinine were within normal limits). The amniotic fluid, blood, and urine samples were collected and sent for culture and sensitivity. In the first pregnancy the antenatal period was uneventful, but the baby expired at 2 months due to sepsis.

Microscopic examination of the amniotic fluid by Grams stain revealed abundant slightly curved Gram-positive pleomorphic bacilli [Figure 1]. The fluid was cultured on Blood agar, Chocolate agar, and MacConkey's agar and anaerobic blood agar. Plates were incubated at 37°C. After 24 hours of incubation, small nonpigmented colonies of 0.5 mm diameter with a clear zone of beta hemolysis were obtained on blood agar. It was catalase negative, oxidase negative, and nonmotile. It did not grow on Tellurite blood agar. It did not hydrolyse aesculin and urea. Glucose and maltose were fermented, but not lactose and mannitol. Reverse CAMP test was positive [Figure 2].

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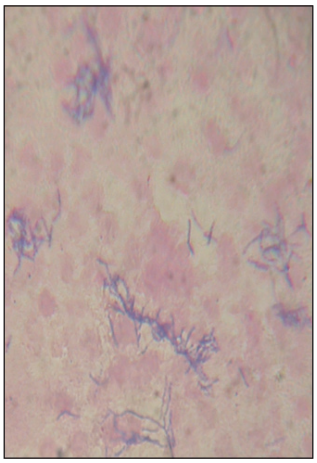

Figure 1: Gram stain showing branched filamentous Gram-positive bacilli

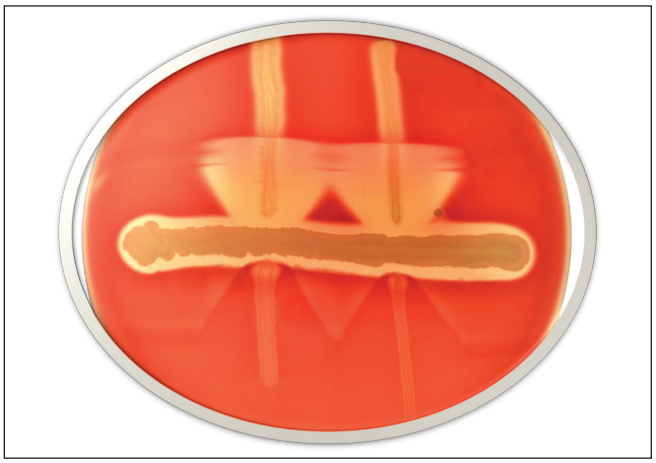

Figure 2: Reverse CAMP test

A. haemolyticum was identified by typical colony morphology, Gram stain, catalase reaction, motility, carbohydrate fermentation tests, and reverse CAMP test. The isolate was sensitive to Penicillin, Erythromycin, Ciprofloxacin, Gentamicin, and Cephalosporin and was resistant to Sulphamethoxazole-Trimethoprim. The patient was induced and a healthy male baby weighing 2.4 kg was delivered. The patient was continued with Gentamicin and Metronidazole for 8 days. Recovery was uneventful. The mother and baby were discharged on the sixth day.

DISCUSSION

Chorioamnionitis can result either from the ascending of organisms from vagina after rupture of membranes or via the blood stream. Commonly anerobes and group B streptococci have been reported as cause of chorioamnionitis.[3] Diagnosis of clinical chorioamnionitis is suggested by the presence of fever in a gravid patient without evidence of, or any other focus of infection. Ruptured membranes may or may not be present. Infective organism cannot be isolated from amniotic fluid in all cases.[4] The bacterial composition of amniotic fluid in case of ruptured membranes is often polymicrobial. But in this case only one type of organism was isolated.

A. hemolyticum is a Gram-positive rod having granular or beaded appearance. Colonies are beta hemolytic on blood agar and on Gram staining irregular club-shaped rod can be noticed.[5] Genus *Arcanobacterium* includes six species *A. hemolyticum*, *A. pyogenes*, *A. bernardiae*, *A. phocae*, *A. pluranimalium*, and *A. hippocoleae*. This organism was sensitive to Penicillin, Cephalosporins, Erythromycin, and Azithromycin. Macrolides have been proposed as the drug of choice, since treatment failure to beta lactum antibiotics have been reported.[6]

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