Chorioamnionitis due to *Arcanobacterium haemolyticum*

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ABSTRACT

Clinical chorioamnionitis can result either from the ascending organisms from vagina after rupture of membranes or via the blood stream. This report describes a case of chorioamnionitis caused by *Arcanobacterium haemolyticum*, an unusual organism associated with this infection. A 19-year-old primigravida at 32 weeks of gestation presented with the complaints of fever, pain in the abdomen, and discharge per vaginum for the past 2 days. Watery, odorless, colorless, and discharge passing intermittently were noticed. *A. haemolyticum* was isolated from amniotic fluid. Upon induction, a healthy male baby weighing 1.9 kg was delivered. The patient was started on gentamicin and metronidazole for 8 days. Recovery was uneventful. The mother and baby were discharged on ninth day. 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. Increase in awareness of clinicians and laboratories will reduce misdiagnosis and facilitate appropriate treatment.

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. The infection occurs in about 2% of all pregnancies, is caused by bacteria that reach the uterus through the vagina.[1]

Rarely, the infection can occur in the absence of any rupture of membranes. This report describes a case of chorioamnionitis caused by *Arcanobacterium haemolyticum*, an unusual organism associated with this infection, described mostly in association with infective pharyngitis rarely with bacteremia and soft tissue infections.[2]

CASE REPORT

A 19-year-old primigravida at 32 weeks of gestation presented with the complaints of fever, pain in the abdomen, and discharge per vaginum for the past 2 days. The discharge was watery, odorless, colorless, passing intermittently. Fetal movements were noticed well by the patient. Upon examination, the patient was febrile (temperature, 39 °C) at 32 weeks of gestation with uterine tenderness, heart rate was 110/min, and blood pressure was 110/80. Fetal tachycardia was present. Per speculum examination showed mucoid discharge, but no foul smell was noticed. Per vaginal examination was not performed due to leaking of amniotic fluid.

The hemoglobin and total leucocytes count were 9.1 and 19,000, respectively, at the time of admission. All other routine investigations (blood sugar, serum electrolytes, urea, and creatinine were within normal limits). Patient was HIV negative. The amniotic fluid, blood, and urine samples were collected and sent for culture.

Microscopic examination of the amniotic fluid by Grams stain revealed abundant Gram-positive bacilli in no particular arrangement. The fluid was cultured on blood agar, chocolate agar, and MacConkey’s agar. Plates were incubated at 37 °C in 5–10% CO₂. After 24 h of incubation, small 0.5 mm diameter translucent non-pigmented colonies with a clear zone of hemolysis were recorded on blood agar from amniotic fluid culture. All other cultures were sterile. *A. haemolyticum* was identified by typical colony morphology, Gram stain, catalase reaction (negative), and carbohydrate fermentation tests (glucose, lactose, sucrose, mannitol, and maltose) and reverse CAMP test. The isolate...
was sensitive to cephelexin, erythromycin, ciprofloxacin, ampicillin, gentamicin, and clindamycin and was resistant to sulphamethoxazole–trimethoprim only. The patient was induced and a healthy male baby weighing 1.9 kg was delivered. The patient was continued on gentamicin and metronidazole for 8 days. Recovery was uneventful. The mother and baby were discharged on ninth day.

**DISCUSSION**

Clinical chorioamnionitis can result either from the ascending 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. Diagnosis of clinical chorioamnionitis is suggested by the presence of fever in a gravid patient without evidence of urinary, respiratory, 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. The bacterial composition of amniotic fluid in case of ruptured membranes is often polymicrobial. However, in this case only one type of organism was isolated.

*A. haemolyticum* is commonly described in association with infective pharyngitis or soft tissue infections especially in the presence of underlying condition like diabetes. Less commonly reported infection includes osteomyelitis, brain abscess, and endocarditis. To the best of our knowledge isolation of *A. haemolyticum* from a case of chorioamnionitis has not been reported.

Intrauterine infections can contribute significantly to perinatal and maternal morbidity and mortality. Clinical unfamiliarity regarding unusual pathogens and inadequate laboratory facilities can add to this problem. Isolation of *A. haemolyticum* may be difficult in routine laboratory. Most studies have found *A. hemolyticum* to be susceptible to all antimicrobial tested except for trimethoprim–sulphamethoxazole. Similar observations were made in the present case also. 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. Increase in awareness of clinicians and laboratories will reduce misdiagnosis and facilitate appropriate treatment.

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