Congenital Malaria with Atypical Presentation in a Preterm Neonate

Rakesh Kumar, Kundan Kumar
Department of Pediatrics, Katihar Medical College and Hospital, Katihar, Bihar, India

ABSTRACT

Congenital malaria (CM) is a rare disease with only about 300 cases reported so far. In general, it presents with fever along with other common features such as jaundice, anemia and hepatosplenomegaly. We report a case of CM who presented atypically without fever along with other typical features.

Key words:
Congenital malaria, fever, preterm neonate

INTRODUCTION

More than 200 million people are annually infected with malaria world-wide. In comparison, congenital malaria (CM) occurs very infrequently. First description of CM dates back to 1876 A.D.[1] Since then, only about 300 cases have been reported in world literature so far.[2,3] The common presenting features of CM include fever, anemia, jaundice and hepatosplenomegaly.[1-6] Other less common manifestations include loose stool, poor feeding, drowsiness or restlessness. One of the most consistent features of CM is fever.[1,2] Here, we report a case of CM who presented atypically without fever.

CASE REPORT

A 16-day-old male child was admitted with complains of refusal to feed and poor activity. The baby was delivered at the gestational age of 32-34 weeks, in the same hospital by cesarean section. Activity, Pulse, Grimace, Appearance, respiration score at 1 min and 5 min was 7/10. The mother was primigravida. He had been admitted on 1st day of life for low birth weight (1,500 g) and poor activity. Rooting and Sucking reflex was poor. There was no organomegaly. The baby was not taking mother's breast milk but was tolerating spoon feeding. Sepsis screen was negative and Hb% was 14 g%. The baby was treated with intravenous antibiotics and fluids for probable sepsis and was discharged after 4 days of admission on repeated requests of parents. The baby came in the out-patient department on 10th day of life for follow-up. The baby was still on spoon feeding and there was no weight gain (weight = 1,480 g). In order to find the cause of failure to gain weight in the baby, admission of the baby was advised, but parents refused. Hence, sepsis screen was performed on the out-patient basis and it came out to be negative. On present admission, the child was lethargic and was not tolerating even spoon feeding. Cry was very weak. Weight was 1,420 g. Pallor was marked. Except for mild tachycardia, vital signs were stable. On abdominal examination, hepatosplenomegaly was present. On 2nd day of admission, the baby developed icterus. The direct fraction of serum bilirubin (T = 9.6 mg/dl, D = 4.6 mg/dl, ID = 5.0 mg/dl) was elevated. The jaundice was pathological. Sepsis screen (total leukocyte count = 8500/mm^3, platelet count = 96300/mm^3, C-reactive protein = negative, band cells = 5%) was again negative. Hb% had decreased to 11 g%. The peripheral blood smear examination showed the presence of plasmodium vivax. A provisional diagnosis of CM was made. This prompted us to take the gestational history once again. The mother then gave a history of fever with chills at third trimester of pregnancy, for which she was treated with some drugs. The documented evidence of the laboratory reports and drugs were not available. Furthermore, the family was a resident of a malaria endemic area. The baby was treated with oral chloroquine at the standard cumulative dose of 10 mg/kg given in divided doses over 3 days. Blood transfusion with packed cell was also carried out. After completion of the course

Address for correspondence:
Dr. Rakesh Kumar,
Department of Pediatrics, Katihar Medical College,
Katihar, Bihar, India.
E-mail: drjaiswalrakesh@yahoo.co.in

Access this article online	
Quick Response Code:	Website: www.jcnonweb.com
	DOI: 10.4103/2249-4847.120002

of chloroquine, the baby showed marked improvement in activity. The icterus disappeared. He started to take mothers breast milk normally. There was a decrease in spleen size. The baby was discharged on nutritional supplements and was on regular follow-up. After 1 month of discharge, the baby had significant weight gain (weight = 2,700 g), pallor subsided (hemoglobin% (Hb%) =17.6 g/dl), spleen was not palpable and the baby was active and playful and was on a full breast feeds.

DISCUSSION

CM increases the risk of neonatal mortality by increasing the risk of low birth weight, pre-mature labor, intrauterine growth retardation and still birth.[4] Vertical transmission of malaria is postulated to occur through a breach in placental barrier.[1] It does not occur by direct penetration of parasite through the chorionic villi. Fetal exposure to maternal blood containing infected red blood cells (RBC's) may be occur inutero or intrapartum. The classic manifestations of CM are fever, hepatosplenomegaly, jaundice and anemia. Though, the infection is present from birth, the usual age of appearance of classic features is on the 10^{th}-20^{th} day of life.[1-3] The late appearance of symptoms is because of the protective maternal immunoglobulin G (IgG) antibody transmitted to the baby and also due to low parasitemia in the early days of life.[5] In the neonate as mature schizont ruptures, several merozoites are released, which infect other RBCs and this cycle continues; thus increasing parasitemia gradually with days of life. The increased burden on spleen to clear the infected RBC leads to splenomegaly, jaundice and anemia; the classic manifestations of CM.

Before this period, neonates of CM may manifest with non-specific features as refusal to feed and poor activity, like the presentation in the first two visits of our case.[5,6] The review of previously reported cases of CM in preterm babies shows that CM may present at an earlier age in preterm babies.[4] This can be due to the fact that the transmission of maternal protective IgG antibody occurs very insignificantly in preterm babies.

Fever is almost a constant feature in term infants with CM. However in the present case, the neonate was preterm and low birth weight and presented without fever. Review of the earlier reported cases of CM in preterm infants also shows the same trend.[4,6] This can be explained by the well-known fact that the preterm and low birth weight babies are more prone to hypothermia rather than fever in conditions of infections.

The absence of splenomegaly and normal peripheral blood smear examination in initial two visits in our patient may be due to low parasitemia in initial days of life. Serological tests of higher sensitivity are needed for the early diagnosis of malaria especially, in stage of low parasitemia.

The present case highlights that CM may present without fever in preterm and low birth weight babies. CM should be included in the differential diagnosis of such neonates who present with a constellation of symptoms of splenomegaly, jaundice and anemia even in the absence of fever. The present case also shows that CM may present with non-specific symptoms of lethargy and refusal to feed in initial few days of life.

REFERENCES

1. Opare DA. Congenital malaria in newborn twins. Ghana Med J 2012;46:163-5.
2. Hashemzadeh A, Heydarian F. Congenital malaria in a neonate. Arch Iran Med 2005;8:226-8.
3. Lesko CR, Arguin PM, Newman RD. Congenital malaria in the United States: A review of cases from 1966 to 2005. Arch Pediatr Adolesc Med 2007;161:1062-7.
4. Ahmed A, Cerilli LA, Sánchez PJ. Congenital malaria in a preterm neonate: Case report and review of the literature. Am J Perinatol 1998;15:19-22.
5. Gandhi A, Garg K, Wadhwa N. Neonatal plasmodium vivax malaria: An overlooked entity. J Infect Dev Ctries 2011;5:489-92.
6. Valecha N, Bhatia S, Mehta S, Biswas S, Dash AP: Congenital malaria with atypical presentation: A case report from low transmission area in India. Malar J 2007;6:43.

How to cite this article: Kumar R, Kumar K. Congenital malaria with atypical presentation in a preterm neonate. J Clin Neonatol 2013;2:138-9.

Source of Support: Nil, **Conflict of Interest:** None declared.