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Case Report
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Unusual Clinical Presentation of Congenital Malaria: Cholestasis in Newborn

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Abstract

Background

Malaria in the newborn is known to present with a myriad of clinical features including anemia, unconjugated jaundice, fever and lethargy. Cholestatic jaundice is not a reported presentation of malaria in the newborn. This case report highlights a new presentation of malaria in an infant and also a new dimension to evaluation of cholestatic jaundice in this age group. It also demonstrates how basic investigations are often overlooked but of immense importance.

Case Presentation

3 months old child was referred with cholestatic jaundice since 1 month. No history of pale colored stools, fever, lethargy, poor feeding was present. On examination jaundice and spleno-hepatomegaly was present and no evidence of ophthalmologic abnormalities. Investigations showed conjugated hyperbilirubinemia, transaminitis and normal INR, protein and albumin. Ultrasonography showed a well-distended gall bladder, HIDA was excretory, work up for Galactosemia, Tyrosinemia, hypothyroidism, Iron storage disorder and sepsis were negative. The mother was diagnosed to be having malaria in the eighth month of pregnancy and recurrence three months later; the child was evaluated for malaria. His peripheral smear showed trophozoites, schizonts and gametocytes of Plasmodium vivax. There were 1760 parasites/ml on quantification. Consequently the child was given chloroquine and primaquin treatment. Two weeks after receiving chloroquine treatment the jaundice has remitted and splenomegaly regressed.

Conclusion

Malaria in the newborn has few symptoms and may present as cholestatic jaundice alone. Congenital malaria should be kept in the differential diagnosis when malaria has been diagnosed in the mother in the antenatal period. Response to standard chloroquine treatment in congenital malaria has been seen to be effective in our setting. Basic investigations need to evaluated completely before specialized investigations are ordered.

Keywords: Congenital malaria; Cholestasis; Cholestatic jaundice

Case Report

Background

Malaria in the newborn is known to present with a myriad of clinical features including anemia, unconjugated jaundice, fever and lethargy. Cholestatic jaundice is not a reported presentation of malaria in the newborn. This case report highlights a new presentation of malaria in an infant and also a new dimension to evaluation of cholestatic jaundice in this age group. It also demonstrates how basic investigations are often overlooked but of immense importance.

Case presentation

3 months old child was referred to our unit with cholestatic jaundice since 1 month. No history of pale colored stools, fever, lethargy, poor feeding, seizures, respiratory difficulty, repeated infections was present. There had never been a need to transfuse him with blood products. On examination jaundice and spleno-hepatomegaly were present. There was no palpable mass per abdomen and no evidence of ophthalmologic abnormalities was seen. The mother was diagnosed to be having malaria in the eighth month of pregnancy and had a recurrence three months later. There was no history of rashes, jaundice in the mother during

the ante-natal period. There was no history of prior abortions or miscarriages.

Investigations: Investigations showed conjugated hyperbilirubinemia, transaminitis and normal INR, protein and albumin. Ultrasonography showed a well-distended gall bladder, HIDA was excretory, work up for Galactosemia, Tyrosinemia, hypothyroidism, Iron storage disorder and sepsis were negative. The peripheral showed malarial parasite to be present.

Peripheral smear – Trophozoites, schizonts and gametocytes of *Plasmodium Vivax* seen

Quantification of malarial parasite – 1760/ml

Complete blood counts- Hb-16mg/dl, TLC-3600 cells per cc, Platelet counts- 210,000/cc

Serum Bilirubin (Total/direct) – 13.8/11.4 mg/dl

AST/ALT – 114/90 U/ml

T3/T4/TSH – 1.1/10.5/1.99 U/ml

AFP – 6410 ng/ml

Iron studies – suggestive of anemia of chronic disease, S.Ferritin 400ng/ml (20-250), S.Iron – 46 µg% (75-150), % saturation – 12.9%

Ultrasonography abdomen – Hepatosplenomegaly and well distended bladder

HIDA scan – Good hepatocyte uptake and function and patent biliary-enteric pathway

Differential diagnosis: The child was evaluated for neonatal cholestasis. First the anatomical causes were ruled out and then neonatal hepatitis was evaluated for. On the basis of history of malaria in the mother the child was evaluated for the same. The evaluation for malaria was delayed, as cholestasis without anemia was not contemplated to be due to malaria. Also weather this malaria was congenital or acquired when the mother had re-infection cannot be determined.

Treatment given and outcome: Chloroquine to a total of 25mg/kg over 3 days.

After chloroquine treatment the child showed complete remission of jaundice in 14 days and the spleen regressed. Blood smear showed no evidence of malarial parasite.

Discussion

To the best of my search I could not find a similar presentation for jaundice in this age.

It has been presumed that malaria is rare in children less than 6 months age due to the presence of maternal antibodies in the serum and fetal hemoglobin [1,2]. A number of studies have established that burden of malaria before six months age is substantial in the endemic areas [3,4]. This high burden of childhood malaria in endemic regions of the world has been associated with malaria during pregnancy [5]. The presence of congenital malaria maybe within days to months after birth, though the usual age of presentation is between 10-30 days after birth. [6,7]. The delay in the onset of the disease has been attributed to factors that may protect the infant initially, particularly infants born to mothers residing in endemic areas. These factors include fetal hemoglobin; abnormal hemoglobin's that are resistant to malarial infection, the secretion of lymphocytes or macrophage-derived toxic substances across the placenta to fetal circulation, and partial malaria chemotherapy during pregnancy [8]. Common symptoms are of fever, anemia and splenomegaly. Rare manifestations seen are of hepatomegaly, jaundice, regurgitation, loose stools, poor feeding, drowsiness, restlessness and cyanosis [9]. Infected children show few symptoms if they are in an endemic zone and may have severe manifestations in non-endemic zones [10,11]. The diagnosis of congenital malaria is difficult as there is relatively a lack of symptoms, awareness of this disease and blood smears are very often falsely negative [8,12,13]. Also congenital malaria is misdiagnosed as sepsis, TORCH infections often. In treatment of congenital malaria there is no established protocol. Chloroquine response is usually seen in most [14] and where resistance has been found artesunate, sulphadoxime- pyremethamine and quinine have been used [15,16].

Our case report shows another manifestation of malaria and whether this was congenital or acquired cannot be proven now. There is a possibility that this child was rather asymptomatic for malaria due to immune tolerance towards the parasite seen in congenital malaria.

Take home messages

Malaria in the newborn has few symptoms and may present as cholestatic jaundice alone.

Congenital malaria should be kept in the differential diagnosis when malaria has been diagnosed in the mother in the antenatal period.

Response to standard chloroquine treatment in congenital malaria has been seen to be effective in our setting.

Basic investigations need to evaluated completely before specialized investigations are ordered.

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