

## CASE REPORTS

# CONGENITAL MALARIA DUE TO PLASMODIUM VIVAX- A REPORT OF TWO CASES

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### ABSTRACT

Although malaria is endemic in India, congenital malaria is not very common. We report two children with congenital malaria both diagnosed accidentally on peripheral smear examination. The clinical presentation in both cases was suggestive of neonatal sepsis. Thus, we emphasize that congenital malaria should be kept as a differential diagnosis when suspecting neonatal sepsis especially in a country endemic for malaria.

### Introduction

Congenital malaria is defined as malarial parasite demonstrated in the peripheral smear of a newborn from 24 hours to seven days of life.<sup>1</sup> Clinically apparent congenital malaria is rare in countries where malaria is endemic and levels of maternal antibodies are high.<sup>2</sup> The most common clinical features are fever, anemia, and splenomegaly. Other signs and symptoms include poor feeding, lethargy, jaundice, and diarrhea.<sup>3</sup> Since the symptoms of congenital malaria often resemble those of neonatal sepsis it is often confused with the latter. We report two neonates with congenital malaria masquerading as neonatal sepsis. The diagnosis of malaria was accidentally made by isolating malarial parasites on peripheral blood film examination.

**Case 1:** A six days old male neonate presented with a refusal of feeds, fever, and diarrhea for 2 days. On examination, the baby was pale, icteric, lethargic and febrile. Vital parameters were normal. On systemic examination, there was hepatosplenomegaly. A provisional diagnosis of neonatal sepsis was considered. Investigations are depicted in table 1. Peripheral blood film revealed trophozoites and schizonts of Plasmodium vivax with a parasite index of 2%. He was treated with chloroquine (10 mg/kg loading dose followed by 5 mg/kg at 6, 24 and 48 hours). There was prompt relief in fever and spleen gradually decreased in size over a week. On further inquiry, the mother revealed that she had a fever with chills in the 9<sup>th</sup> month of pregnancy. Her peripheral blood film and optimal test were negative for the malarial parasite.

**Case 2:** A 5-day old female child presented with a refusal of feeds and fever for 48 hours. On examination, the baby was pale, icteric, lethargic and febrile. Vital parameters were normal. On systemic examination,

there was splenohepatomegaly. A provisional diagnosis of neonatal sepsis was considered. Investigations are depicted in Table 1. Peripheral blood film examination revealed trophozoites of P. vivax with a parasite index of 1%. She was also treated with chloroquine to which she responded. Mother revealed that she had a fever with chills in the 9<sup>th</sup> month of pregnancy. Her peripheral blood film was negative but her optimal test was positive for P. vivax. Mother was also treated with chloroquine.

**Table 1.** Investigations of both the patients at presentation

Investigation	Case 1	Case 2
Hemoglobin (gm/dl)	9	11.4
White cell count (cells/cumm)	12,000	13,400
Polymorphs (%)	50	65
Lymphocytes (%)	47	31
Platelets (cells/cumm)	50,000	64,000
Total Bilirubin (mg/dl)	10	10.4
Indirect bilirubin (mg/dl)	9	9.4
SGPT (IU/L)	450	233
CRP (mg/dl)	23	5.6

### Discussion

Congenital malaria was first described in 1876 by Romand et al.<sup>1</sup> More than 150 cases of congenital malaria have been described from across the world.<sup>2</sup> Nagaraj et al have reported an incidence of 1.97% of congenital malaria from Bikaner, Rajasthan<sup>3</sup> suggestive that congenital malaria is common in areas endemic for malaria. While P. falciparum has often been reported as a cause of congenital malaria, P. vivax as a cause of congenital malaria has been described more often from South-east Asian region.<sup>3,4</sup> Both of our patients had congenital malaria due to P. vivax. Neonatal malaria has an occurrence rate of 0.3% in immune mothers and 7.4% in non-immune mothers.<sup>5,6,7</sup> Placental infection occurs in as many as one-third of women who acquire the infection during pregnancy. In endemic areas, there

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is a spontaneous clearance of infection among neonates due to the protective effect of maternal antibodies (IgG) and presence of fetal hemoglobin in slowing the rate of parasite development.<sup>8,9</sup> In both our patients, there was a presence of fever in the mother in 9<sup>th</sup> month of gestation suggestive that they may have been non-immune.

Congenital malaria mimicking neonatal sepsis and presenting as respiratory distress have been described by various authors.<sup>10,11,12</sup> Since this entity is thought to be rare in neonates most cases are picked up accidentally. In both our patients, malaria was picked up incidentally on peripheral blood film examination and were initially suspected to have neonatal sepsis. This emphasizes the importance of a good peripheral blood film examination in all cases of suspected sepsis. The drug of choice for congenital malaria both due to *P. vivax* and *P. falciparum* remains chloroquine. Primaquine is not given in congenital malaria as there is no exoerythrocytic stage.<sup>11</sup> There is no role of artemisinin therapy in the treatment of congenital malaria except for severe malaria and in children more than 5 kg.<sup>11</sup> If diagnosed timely congenital malaria carries a good prognosis.

#### **Compliance with Ethical Standards**

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**Conflict of Interest:** None

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