

## CONGENITAL MALARIA

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### ABSTRACT

Congenital malaria is a rare disorder which is difficult to interpret as most of the clinical features are similar to other diseases e.g. neonatal sepsis. It is defined as the presence of malarial parasites in the peripheral smear of the newborn from twenty four hours to seven days of life. We report 12 days old newborn who presented with high grade fever, reluctant to take feed, increasing pallor, jaundiced, dehydrated and lethargic. He was hypotensive, hypoglycemic, convulsing with hepatosplenomegally. He had a clear history of maternal fever (intermittent) for last three weeks and increasing pallor. His MP test was positive. Both mother and child were treated and later discharged when they fully recovered.

**KEY WORDS:** Congenital malaria, P Vivax.

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### INTRODUCTION

Malaria is an important vector borne infectious disease. Congenital malaria is defined as the presence of malarial parasites

in the peripheral smear of the newborn from 24 hours to 7 days of life.<sup>1</sup> Malaria causes 300 million clinical cases and around one million deaths each year. It is a major problem in tropical and subtropical countries and can be transmitted vertically from placenta of a pregnant woman to her fetus or perinatally during labour.<sup>1</sup> Congenital malaria occurs in <5% of affected pregnancies.<sup>2</sup> Studies have shown that the incidence of congenital malaria ranges from 0.3 to 33% in both endemic and non endemic areas.<sup>2</sup>

The risk of malaria infection during pregnancy is greater and can result in maternal death and spontaneous abortion in up to 60% of cases. The prenatal and neonatal mortality may vary from 15 to 70%.<sup>3</sup> Congenital malaria is one of the three recognized types of malaria, the other being transfusional and acquired. P. vivax malaria during pregnancy is associated with maternal anemia and low birth weight.

High grade fever, placental insufficiency, hypoglycemia, anemia and other complications

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can all adversely affect the fetus. The new born child can manifest with fever, irritability, feeding problems, hepato-splenomegally, anemia, jaundice, low birth weight etc.<sup>3</sup> The onset of symptoms is between 10 to 28 days of age with a range from 14 hours of life to eight weeks of age. There are very few documented studies on *P. vivax* malaria in pregnancy.

### CASE REPORT

A twelve days old male baby with 2.6Kg weight, presented with fever, reluctant to feed, increasing pallor and jaundice. On examination the baby was lethargic, febrile, anemic and deeply jaundiced. He was dehydrated and hypotensive with tachycardia. The spleen was palpable 11cm and liver was 4cm palpable below the coastal margin. There was a grade three systolic murmur audible over the precordium. Mother had a history of fever for three weeks. The labs showed Hb: 5.6gm/dl, TLC: 12,000/, Platelets: 56,000. The reticulocyte count was 10% and peripheral blood film showed anisocytosis and poikilocytes. Blood sugar was low 34mg/dl, total bilirubin: 17.5mg/dl, direct: 3.5mg/dl and indirect: 14.0mg/dl. Peripheral smear showed *Plasmodium vivax* of all stages. Her mother was also investigated for fever and anemia. She was also found to have *P. vivax* positive in her smear. Diagnosis of Congenital Malaria was made and the baby was treated with initial boluses followed by appropriate intravenous fluids with glucose and chloroquine was started. He also received pack cell transfusion and phototherapy. The baby showed a remarkable recovery and his fever and jaundice subsided, spleen disappeared and the baby started feeding. Repeat peripheral smear examination showed no malaria parasite. Mother was treated with chloroquine.

### DISCUSSION

Malaria in the newborn is believed to be uncommon. More than 150 cases of congenital malaria have been reported in the world literature.<sup>4</sup> A study conducted in Karachi

showed that the prevalence of congenital malaria was 4.45 per cent and 14 per cent in acquired malaria cases and *P. falciparum* and *P. vivax* are the most prevalent species in Karachi.<sup>4</sup> Infection with *Plasmodium* species during pregnancy has been associated with low birth weight and a consequently increased risk of perinatal and infant mortality. Onset may be as early as 14 hours to as late as eight weeks of age but on an average it is between 10 to 28 days of life. Fever, anemia, splenomegaly occur in 80% cases.<sup>3,5</sup> Reticulocytosis occurs in 50% cases and jaundice in 33% cases. Other features include hepatomegaly, poor feeding, loose motions and failure to thrive. A literature review of cases of congenital malaria in Thailand showed that out of 27 cases of congenital malaria twenty two (81.5%) were due to *P. vivax* and five (18.5%) because of *P. falciparum*.<sup>6</sup>

Prevention of malaria during pregnancy in non-endemic areas involves the use of chloroquine in the dose of 300 mg base/ week. Its use in pregnancy may not be entirely safe as is demonstrated by the occurrence of severe vestibulo-cochlear paresis and posterior column defects in two babies born to a mother suffering from SLE and who was on chloroquine.<sup>3</sup> The dose of chloroquine is four times higher than that recommended for anti malarial prophylaxis and may be the cause of teratogenicity.<sup>3</sup> However, despite widespread use of chloroquine in pregnancy, teratogenic effects of the same have not been confirmed in controlled trials. Administration of pyrimethamine and primaquine for resistant cases and eradicating exo-erythrocytic phase respectively is not advised in view of the teratogenic potentials of these.<sup>7</sup>

Chloroquine given in the dose of 10mg/kg body weight of base, followed by 5mg/kg after six hours and 5mg/kg once a day for the next two days is the accepted regimen for treating congenital malaria. Primaquine is not required for treatment as the tissue phase is absent in congenital malaria.<sup>1</sup>

As malaria contributes significantly to fetal losses, still births and premature births in

endemic areas, its effective control can lead to an increase in mean birth weights of babies in these areas.<sup>8</sup> Indeed we should consider congenital malaria in the differential diagnosis in endemic areas.

### CONCLUSIONS

Emphasis should be given to awareness regarding use of chemoprophylaxis and bed nets in community and adequate treatment for suspected malaria during antenatal period.

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