PREVALANCE OF CONGENITAL MALARIAArun M. K¹, Veena K. R²**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: Prevalence of congenital malaria in endemic area was studied. Prospective hospital base study showed low prevalence of congenital malaria. No significant neonatal morbidity could be noted in newborns born to mothers with malaria during pregnancy. Congenital malaria is not a major illness contributing for neonatal morbidity and mortality in first week of life.

KEYWORDS: Congenital malaria, Newborn.

INTRODUCTION: BACKGROUND: Malaria is one of the most common infectious diseases worldwide and Mangalore is endemic for malaria. Malaria infection in pregnancy has its consequences among mothers and their off springs.

Congenital malaria is acquired by transmission of parasitized maternal erythrocytes across placenta. However the incidence is less, various studies estimating the prevalence between 0.3 -10%, presumably due to effective placental barrier and transplacentally transferred maternal antibodies.¹

Clinical features of congenital malaria include irritability, poor feeding, fever, pallor, jaundice, hepato-splenomegaly. Preterm delivery and low birth weight have also been reported. Usual presentation is between 10-30 days.^{1,2} Sometimes the symptoms may be delayed up to 3 months.⁴

AIM: The study was designed to determine prevalence of congenital malaria and its clinical profile. And to study correlation of parasitemia and antimalarial antibodies in neonates born to mothers with malarial infection during pregnancy.

METHODS: This is hospital based prospective study done at Srinivasa hospital, Mukka, Mangalore between June 2013 – September 2014. The study population was neonates born to mothers who had malaria during pregnancy. The newborns in first week of life with symptoms suggestive of malarial infection/sepsis were also included.

Newborns of mothers with malaria having other severe obstetric complications were excluded from the study.

Detailed clinical examination was done; signs of illness were noted if present. Details of delivery (mode, maturity, neonatal complications) were noted. The newborns born to mothers with malaria were followed up for 3 months for occurrence of symptoms and parasitemia.

Blood samples of the neonates were taken and examined for malaria parasite by Giemsa stained thick and thin smears. Histidine rich protein based rapid diagnostic tests were done. Other investigations are done, like blood counts, sepsis screen, renal functions as clinically indicated. Cord blood samples were collected in newborns born to mothers with malaria during pregnancy.

Pregnant mothers who were diagnosed with malaria, had blood films and rapid diagnostic tests done. When the mothers were treated outside, details of infection, type of malaria treatment details were collected. Parasite density, type of malarial parasite, parasite forms in the smear was noted.

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RESULTS: During the study period 245 neonates were included in study and evaluated. 4 neonates were diagnosed as congenital malaria with microscopy and rapid diagnostic tests on peripheral blood and 5 neonates of mothers with malaria had parasitemia in cord blood.

37 mothers had clinically proven malaria during pregnancy in the study. This was 8% of total number of pregnant women attending antenatal clinic during study period. Placental parasitemia was not tested. Many studies have shown the rate of parasitemia in placenta and cord is significantly higher than the incidence of peripheral blood parasitemia in newborn.

The babies of these mothers had lower birth weights as compared to normal mothers but showed statistically no significant difference in terms of birth weight. Also there was no significant difference regarding gestation age. No newborn born to mothers with malaria had any signs of IUGR. No neonatal complications were noted. APGAR scores were normal. No newborn had respiratory distress or required any supportive care.

The blood count also showed no significant difference. All newborns had low parasite density ($<50/\text{mcl}$). The parasite density was 76/mcl in cord blood. All 4 cases were *P. falciparum*. 3 babies had trophozoites forms, while one baby had both trophozoites and gametocytes. One newborn with positive parasitemia in cord blood did not show peripheral blood parasitemia in first week of life. On follow-up baby showed no clinical signs or parasitemia.

The babies showed no clinical features in first week of life. Average age of symptoms was 12 days. All babies had fever, irritability and refusal of feeds. 2 babies had mild jaundice, 1 had mild splenomegaly.

DISCUSSION: The study shows that prevalence of congenital malaria is quite low even in endemic area like Mangalore. The study population was high risk for malaria, still the incidence is low.

Several hospital based studies from Africa have reported high prevalence of malaria in newborn. The reason for variable prevalence in other areas with similar endemicity is unclear.^{5,6} The data from community based studies have shown that congenital malaria is uncommon cause of neonatal morbidity.³

Pregnancy associated malaria is implicated as cause of stillbirths, prematurity, IUGR in affected newborns. However its effect of malaria as cause of above complications is unclear.³

CONCLUSIONS: The data from the study shows that congenital malaria is uncommon disease and it's a uncommon cause of neonatal morbidity.

The data from the study does not support empirical treatment of malaria in sick neonates or neonates of mothers with malaria during pregnancy.

Congenital malaria is mostly asymptomatic with no pathognomonic clinical features.

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