

## EXCHANGE TRANSFUSION AND NEONATAL MALARIA

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### INTRODUCTION

Exchange transfusion has saved many lives and brain damages since its introduction. It not only removes bilirubin but also removes haemolytic antibodies and corrects anaemia. Often used as treatment for severe malaria in older patients, it may instead cause malaria when the transfused blood is not properly screened.<sup>1</sup> We report a case of neonatal malaria as a complication of exchange transfusion that is uncommon even in endemic areas.

### CASE REPORT

A case is reported with a family history of neonatal jaundice. On examination all the physical parameters were normal except jaundice. Biochemical and haematological investigations revealed Rhesus incompatibility. The direct Coomb's test was positive. Serum bilirubin was very high and an immediate exchange transfusion was arranged with appropriate blood.

The baby improved and was discharged on the sixth day of his life. On the fifteenth day of his life the baby was brought back to the hospital with fever and pallor. He was found restless and febrile with palpable spleen. All his investigations were normal except haematological profile that revealed anaemia and trophozoites of plasmodium vivax. The patient improved and was discharged after five days when treated

with Chloroquine and blood transfusion. It was found that the blood donor had two attacks of fever in the last four months. The blood was screened only for HIV (Human Immune Deficiency Virus) and Hepatitis B before exchange transfusion.

### DISCUSSION

Malaria can occur in newborn as congenital or neonatal malaria. In congenital malaria there is transplacental transmission of the malarial parasites. The mechanism of in- utero transmission is not fully understood. Congenital malaria can be caused by any of the Plasmodium species and diagnosed as a parasitemia detected in the first seven days of life. If the parasitemia occurs during the seventh and twenty-eighth day of life, it is known as neonatal malaria. Neonatal malaria can be transmitted through infected blood products and mosquitoes bites.<sup>2,3</sup> Transmission of malaria through infected blood by use of syringes and needles has been reported. Malaria has also been transmitted by plasmapheresis, packed red blood cells or donated kidney. However, transmission by the infected blood is the most common cause for the transfusion malaria. The commonest mode of presentation in this age is severe anaemia with hepatosplenomegaly, pallor, restlessness and irritability.<sup>4</sup> The possibility of malaria must be considered in any patient with unexplained fever who had

received a blood transfusion within three months. The malarial parasite detected in infants is considered as a reliable marker for local malaria as it is the least mobile population of the community.<sup>5</sup>

Blood is usually screened for HIV and HBV, but there is no routine screening for malarial parasite, inspite of the fact that it is very common in Pakistan. There are great variations in rules regarding the acceptance of the donated blood. Microscopic screening of the donor blood is of little value for the detection of asymptomatic parasitemia. The modern serological technique of immunofluorescence agglutination (IFA) test is very useful though it does not always suggest presence of infection.<sup>3</sup> This technique was tried at few centres for research purposes' only.<sup>6</sup> Patients with history of recurrent febrile attacks may preferably be screened for malaria. Malaria must be considered in the differential diagnosis of fever even in the first month of life if it has occurred after a blood transfusion.

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