



VERTICAL TRANSMISSION OF DENGUE: A CASE REPORT

Neonatology

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ABSTRACT

Dengue infection during pregnancy poses a risk to both the mother and foetus. A neonate born to a dengue positive mother had perinatal asphyxia and developed features of sepsis but with a normal sepsis screen. Patient's blood investigations showed thrombocytopenia and were positive for dengue. Possibility of vertical transmission was suspected as baby became symptomatic within the incubation period.

KEYWORDS

Dengue, Thrombocytopenia, Vertical Transmission

Introduction

Dengue is a vector borne flavivirus infection. Globally it is one of the important causes of mortality and morbidity in children. Worldwide 2.5 billion people are at risk with around 390 Million infection per year which include dengue fever, dengue with warning signs and severe dengue.¹ Majority of patients with dengue are asymptomatic but dengue in a pregnant women can lead to various complications both foetal and neonatal including vertical transmission of the virus in the neonate.^{2,3} We report a neonate born to a dengue positive mother by emergency caesarean because of foetal distress, presenting to us with complains of birth asphyxia and respiratory distress since birth.

Case report

A newborn baby was admitted in level III Neonatal Intensive Care Unit (NICU) of King George's Medical University at 52 hours of life. Baby was delivered to a primigravida mother as 3.5 Kg female, at Queen Marry Hospital at 39 week 4 day gestation through emergency caesarean section done due to foetal distress. At birth baby had meconium stained liquor and cried after tactile stimulation. At admission baby had respiratory distress with RR of 66/min, retractions, with normal perfusion, temperature and heart rate. Reflexes were poor, tone was normal. Baby was managed with warmer care, intravenous (IV) fluids and oxygen (O₂) with hood. Mother had a history of fever 2 days prior to delivery, so considering a possibility of sepsis IV antibiotics were started as per our NICU policy. Sepsis screen was negative and blood culture report was found to be sterile. Gradually the O₂ was weaned off after 48 hours and baby become hemodynamically stable and was stepped down to level I NICU. On Day 6 of life, patient developed fever documented 102° F. The repeat sepsis screen was negative and complete blood count (CBC) showed thrombocytopenia of 10000/mm³, haemoglobin 15.1 g/dl and TLC 7800 cells/mm³ with haematocrit 44.6%. Mother was suffering from dengue with danger signs. She had undergone platelet transfusion once. On investigating mother was NS1 Antigen positive. So suspecting the possibility of vertical transmission of dengue, as symptoms of baby developed well within the incubation period of dengue in mother the baby was investigated for dengue and was found to be NS1Ag positive. IgM dengue of both mother and baby was also positive. Liver enzymes were raised with SGOT/SGPT as 543.4/494.6 IU/L and bilirubin levels were within normal limit. The platelet count of baby decreased to 8000/mm³ on repeat full blood count (FBC) along with appearance of reddish rashes on the body suggestive of petechiae, so platelets were transfused at 10 ml/kg under aseptic precautions. Haematocrit and blood pressure were monitored and baby was managed accordingly. From day 09 of life the baby's condition started improving with a simultaneous improvement in platelet counts and haematocrit. So the baby was discharged on day 12 of life.

Discussion

Sepsis and birth asphyxia in a setting of meconium stained liquor are few of the most common cause of respiratory distress in a new-born in India. However India being a dengue endemic country, maternal dengue is common which can lead to maternal and foetal complications.² Although vertical transmission of dengue is rare but many cases have been reported in the past.^{3,7}

Perinatal dengue is transmitted via placenta and even through breast milk.^{7,8} Dengue infection of the foetus can result in foetal distress leading to meconium passage, birth asphyxia and respiratory distress. In the present scenario the baby developed fever on day 6 of life which can be justified by the fact that incubation period of dengue is 3-10 days.⁹ As we have a source limited setting, we were not able to get the dengue virus PCR and so have to rely on NS-1 and IgM positivity which together are 99-100% specific and >85% sensitive.¹⁰ As we did not suspect dengue at birth, dengue antigen and antibody isolation was not carried out in placenta or cord blood at the time of delivery.

Conclusion

Perinatal transmission although rare should be suspected in baby with fever, respiratory distress and thrombocytopenia when mother has clinical feature suggestive of dengue or lab proven dengue.

Consent

A written informed consent was taken from the parents for publication of the case report.

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