INTRODUCTION

Chikungunya virus is an RNA virus of the genus Alphavirus of Togaviridae family. We report a neonate, who presented with fever, poor feeding, excessive crying, and increasing facial hyperpigmentation due to Chikungunya fever which was confirmed by IgM serology. The test was positive in the infant and negative in the mother suggestive of postnatal infection.

Chikungunya is caused by arthropod-borne alphavirus and is rare in neonatal period. A maternal to child transmission is very uncommon. The risk for abortion is increased if the mother gets infected in the first trimester compared to the last trimester. Neonates with the disease can present with irritability, fever, poor feeding, bleeding, hyperalgesia, apnea, diffuse limb edema, multiorgan failure, and various skin manifestations. Severe illnesses can also present with encephalopathy, possibly because of meningoencephalitis and cerebral hemorrhages. Infected newborns, from maternal infections, are either asymptomatic or present within first week of life, but usually not at birth. The pooled risk of neonatal death is 0.6% among maternal infections and 2.8% among neonatal infections. Furthermore, long-term neurodevelopmental delays are reported in almost half of symptomatic neonatal infections. Diagnosis is mainly established with RT-PCR or serology. IgM antibodies suggestive of acute infection are detectable usually around 2 days of illness (1-12 days) by enzyme-linked immunosorbent assay (ELISA) and remain positive for weeks to 3 months. IgG antibodies appear few weeks later and persist for years.

CASE PRESENTATION

A 12-day-old male baby born to a 27-year-old primigravidae mother at 38 + 2 weeks gestation via cesarean section presented with complaints of fever, poor feeding, and excessive crying for 4 days. In addition, parents noticed increasing facial hyperpigmentation. The baby was discharged on breastfeeds on day 3 of life. On 8th day of life, infant developed fever, poor feeding, excessive crying, and facial hyperpigmentation (Figure 1).

At admission, baby was febrile (temp. 100.1F/37.8°C), irritable, and had hyperpigmentation of face. His cardiorespiratory examination was unremarkable. Investigations revealed hemoglobin of 15.7 g/dL, total leukocyte count of 14.6 x 10^9/L (24% polymorphs and 73% lymphocytes), platelets 138 x 10^9/L, and C reactive protein 9.6 mg/L. Liver and renal functions test were normal. Cerebrospinal examination was also normal. Blood and CSF culture were sterile. IgM for Chikungunya sent on day 1 of admission was positive but IgM for Chikungunya for mother was negative. He was initially started on Cefotaxime (100 mg/kg/day) and...
Amikacin (15 mg/kg/day) with supportive care. Antibiotics were stopped after 48 hours as blood culture and CSF culture were sterile. Orogastric feeds were started on day 1 of admission and increased to full feeds in next 3 days. His condition improved and he became afebrile on 3rd day of admission. Repeat complete blood picture showed normal platelet count. Baby was discharged in stable condition on 19th day of life. On follow-up, he was gaining weight and had no complaints. The hyperpigmented lesions disappeared on follow-up.

2.1 | Differential diagnosis

These include sepsis which usually has risk factors for early onset and responds to antibiotics. This was ruled out by negative cultures. Dengue fever can have similar presentation, but usually, there is no hyperpigmentation and was ruled out by negative serology. Lastly, glucocorticoid deficiency usually presents with shock or virilization along with dyselectrolemia. Electrolytes were normal in the index case, and there were no symptoms of vomiting or dehydration. Genitals were normal.

3 | DISCUSSION

Chikungunya is a viral disease transmitted by the bite of infected Aedes or Culex mosquitoes. The incubation period varies from 2 to 12 days and is usually 3-7 days. The disease has varied signs and symptoms depending upon the age group. In adults and children, symptoms include sudden onset of high-grade fever, headache, fatigue, malaise, nausea, vomiting, maculopapular rash, severe muscle, and joint pain similar to Dengue fever. Neonates usually present with symptoms such as fever, lethargy, excessive crying, irritability, poor feeding, perioral hyperpigmentation, and cardiovascular instability. The most common presentation in neonates reported by authors in a case series from India was fever (69%), lethargy (56%), and seizures (50%) The clinical findings in our case were fever, excessive crying, poor feeding, and facial hyperpigmentation.

The peculiarity of present case is that the neonate was not infected by maternal to fetal transmission but was infected postnatally after discharge from the hospital. This was confirmed by positive IgM in neonate and a negative IgM serology on mother. Furthermore, there were no seizures or signs of encephalopathy which are seen in half of the neonates infected with Chikungunya. No other family member was infected, and India is an endemic country.

Maternal-fetal transmission rate is approximately 50% during the intrapartum period. The placental barrier is impermeable to Chikungunya virus during the antepartum period. Vertical transmission does not occur in pregnant women infected more than 7 days before delivery. Transmission usually occurs primarily through transplacental route shortly before delivery due to contact of viremic maternal blood with placental barrier gaps during labor. Therefore, infected newborns are asymptomatic at birth. Delivery by cesarean section does not prevent viral transmission. Viral chikungunya is not a “true” neurotrophic virus but perinatally transmitted leads to encephalitis in newborn. Thrombocytopenia and raised C-reactive protein seen in the index case are almost universal. Similar findings were reported by Mangalgi et al in their case series Chikungunya should be considered in the differential diagnosis in newborns presenting with high-grade fever and hyperpigmentation especially in endemic areas.

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Published with written consent of the patient.

CONFLICT OF INTEREST

The authors have nothing to disclose.

AUTHOR CONTRIBUTIONS

VG and NG managed the case. VG and AP wrote the initial manuscript. AP did the critical appraisal and final corrections. All authors accepted the final manuscript.

ETHICAL STATEMENT

Consent was sought from parents.

DATA AVAILABILITY STATEMENT

All the data are provided with this case report.
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