Acute Demyelinating Encephalomyelitis in a Neonate Secondary to Dengue Infection

A 9-day-old term male neonate was referred to us with history of fever, lethargy, poor feeding and seizures. The neonate was delivered by elective caeserian section, and weighed 2.98 kg at birth. The mother was treated for undiagnosed febrile illness before the delivery which lasted for a week. On 6th day of life, the child was re-admitted in view of poor feeding and fever. Septic work-up was negative. The platelet count decreased from 2.35×10^9/L to 1.3×10^9/L on day 9 of life. Repeat septic work-up was negative. Basic biochemistry work-up for seizure was normal. Analysis of cerebrospinal field (CSF), including polymerase chain reaction (PCV) for herpes simplex virus (HSV) was negative. Neurosonogram revealed normal study. Platelet count further dropped to 1.1×10^9/L on day 11 of life. Dengue panel revealed positive NS1 antigen, positive IgG and negative IgM antibodies against dengue virus. Magnetic resonance imaging (MRI) of brain revealed multiple areas of restricted diffusion of the white matter of the supratentorial compartment involving the fronto parietal and temporal lobes as well as the internal capsules. A diagnosis of acute demyelinating encephalitis (ADEM) was made based on findings of MRI. A metabolic screen (ammonia, lactate and tandem mass spectroscopy) was negative. The neonate received respiratory support and anticonvulsants (phenobarbitone and phenytoin) for seizures. Fever resolved by 10th day, platelet counts normalized by 14th day and seizures were well controlled. Virus isolation for dengue could not be performed. As the sensorium was normalized and seizures were well controlled, further immunotherapy was not initiated. The neonate was discharged on 17th day of life. The anticonvulsants were tapered and stopped over next 4 weeks. Repeat MRI brain was not advised as the follow up neurological and developmental examination was normal at 3 months of life.

There have been few reports of ADEM in children and adults secondary to dengue infection [1]. This neonate possibly had primary dengue infection acquired vertically from the mother. The reason for negative Dengue IgM could be attributed to delayed rise in antibody. ADEM is not reported in neonates. An experimental study on mice had showed neonatal central nervous system (CNS) is less conducive to autoimmunity than the adult CNS because of differential composition of immune cells within CNS; the neonatal mice were resistant or had developed milder experimental induced encephalomyelitis [2] which could derive us to substantiate the milder variety and spontaneous recovery of ADEM without steroids in our neonate.

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Spontaneous Migration of Airway Foreign Body to the Gastrointestinal Tract

Tracheobronchial foreign bodies are common in pediatric population, especially in the first six years of life. Most inhaled foreign bodies are found in the right main bronchus [1]. Spontaneous expectoration of sharp metallic foreign bodies is rare. All airway foreign bodies require prompt retrieval by bronchoscopy to prevent complications [2,3].

A 2-year-old boy presented to us with history of cough, fever and loss of appetite for 15 days. He had mild respiratory distress; trachea was central and air entry was reduced on right side with presence of occasional crepitations. Chest *X*-ray showed right-sided sharp metallic screw-like foreign body along the course of right main bronchus, with its tip pointing medially and upwards, along with consolidation of lower lobe (***Fig.* 1A**). He was taken up for rigid bronchoscopy after 2 hours of admission, but there was no foreign body in tracheobronchial tree; the right main bronchus had tell-tale signs of inflammation. Intra-operative radio-imaging with C-Arm revealed migration of foreign body into the stomach (***Fig*. 1B**). This was managed expectantly with