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CORRESPONDENCE

Neonatal Liver Failure Secondary to Gestational Alloimmune Liver Disease

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To the Editor: Neonatal liver failure (NLF) is a fatal condition with diverse etiologies (metabolic, infectious, vascular, immunological) [1]. Gestational alloimmune liver disease (GALD) is the leading immunological cause of NLF with 20% to 80% survival rates. We report a case of neonate with GALD, treated with Double Volume Exchange Transfusion (DVET) and intravenous immunoglobulin (IVIG) [2].

An 8-d-old full term male, appropriate for gestational age, was born to non-consanguineous parents with no antenatal risk factor by cesarean section in-view-of non-progression of labour. He was admitted on day-2 of life for hypoglycemia and discharged on day-5 with normal clinical examination. He was readmitted on day-8 with lethargy, jaundice, and hepatosplenomegaly. Evaluation showed acute liver failure with conjugated hyperbilirubinemia (direct 10.42 mg/dL), elevated transaminases (ALT 995, AST 2282 U/L), coagulopathy (INR 3.1), and hyperammonemia (237 µmol/L). Abdominal ultrasound revealed hepatosplenomegaly and ascites. Infectious, metabolic, and hemophagocytic lymphohistiocytosis causes were ruled out. MRI abdomen demonstrated pancreatic siderosis. He was treated with DVET and IVIG on day-13. Findings of percutaneous liver biopsy on day-19 was consistent with GALD [significant hepatic fibrosis with extensive complement-mediated liver injury (C5b-9)]. A second course of DVET and IVIG was given on day-34. Liver transplantation was denied by parents. Despite aggressive management, the infant developed multiorgan failure and succumbed on day-40.

GALD is a materno-fetal alloimmune disorder caused by transplacental maternal-IgG antibodies leading to complement-mediated fetal hepatocyte injury. Extrahepatic siderosis, spares the reticuloendothelial system, supports the diagnosis and detected by MRI T2* or oral-mucosal biopsy [3]. Tsunoda et al. reported GALD case without extrahepatic siderosis, successfully treated with liver transplantation [4]. First-line therapy includes IVIG/DVET, while liver transplantation is reserved for refractory cases. Parents were counselled regarding antenatal treatment in future pregnancies to prevent recurrence. GALD should be strongly considered in NLF, as early diagnosis and prompt treatment can significantly improve outcomes.

Declarations

Conflict of Interest None.

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