Multisystem Inflammatory Syndrome in a Neonate with Prenatal Exposure to COVID-19

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To the Editor: Multisystem inflammatory syndrome in children (MIS-C) was described in children in association with SARS-CoV-2 infection in April 2020. It can be fatal and occurs in children 2–6 wk after exposure [1, 2].

A 10-d-old male neonate came with complaints of cough and abnormal body movements. Paternal grandfather had COVID disease during the mother's second trimester of pregnancy. Baby was febrile, had tachycardia, tachypnea with moderate subcostal and intercostal retractions with rhonchi. We started on NIV, intravenous antibiotics, and anticonvulsants. Blood count, septic screen, metabolites, and renal function were normal. RT-PCR done for COVID was negative. SARS-CoV-2 antibodies were reactive for both mother and the newborn.

Ferritin was 902 ng/mL (30–400 ng/mL), LDH 545 U/L (135–255 U/L), CRP 1.4 mg/L, and D-dimer was negative. Cardiac markers were substantially elevated, with CKMB 94 ng/mL (0–24 ng/mL), troponin T 0.177 ng/mL (0–0.1 ng/mL), and CPK 376 ng/mL (38–174 ng/mL). Echocardiography showed coronary artery dilatation of LAD and RCA. We started on intravenous immunoglobulin, methylprednisolone and aspirin. The baby was afebrile after 2 d of treatment and respiratory distress improved. Repeat echocardiography on day 14 showed no focal dilatation. Cardiac and inflammatory markers improved gradually.

A study involving 1471 mothers on transplacental transfer of SARS-CoV-2 antibodies showed transmission of IgG antibodies in 72 of 83 seropositive mothers [3]. Studies done to assess dynamics of antibodies in newborns' serum proved that infants born to mothers with COVID-19 tested negative but had high anti-SARS-CoV-2 IgG concentrations at birth [4].

As per our understanding, the newborn presented with features of MIS-C with an evidence of prenatal exposure to mother in the form of raised antibodies. We would like to highlight the need to have a high index of suspicion for the possibility of MIS-C in newborns with unusual presentation, even when the mother may be antigen negative and asymptomatic. In the current scenario of widespread COVID, there is a chance we may see more indirectly exposed newborns presenting in a similar fashion.

Declarations

Conflict of Interest None.

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