



# Human Metapneumovirus Infection and Multisystemic Disease in an Infant

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*To the Editor:* An 11-mo-male presented with fever, cough, respiratory distress for 3 d; and seizure and unconsciousness for 1 d. Examination showed compensated shock, respiratory failure, bilateral crepitations, Glasgow Coma Scale 8, increased tone, brisk deep tendon reflexes, upgoing planters, normal pupillary size, and no signs of meningeal irritation.

Investigations revealed normal glucose, anemia, thrombocytopenia, neutrophilic leucocytosis, normal anion-gap metabolic acidosis, transaminitis, acute kidney injury, echinocytes and schistocytes on peripheral blood smear, positive urine myoglobin, normal renal ultrasonography, elevated C-reactive protein (CRP), D-dimers, lactate dehydrogenase, and CK-NAC, interstitial infiltrates on chest radiograph. Cerebrospinal fluid (CSF) analysis revealed 15 cells (lymphocytic predominance) and normal protein and glucose, sterile blood and CSF cultures, negative malaria smears, evidence of myocarditis (low ejection fraction, elevated Troponin T and ProBNP). and nasopharyngeal swab PCR positive for human metapneumovirus (hMPV) (negative for RSV, PIV 2 and 3, RV, influenza virus, and SARS-CoV-2).

The management included mechanical ventilation, fluid resuscitation and adrenaline infusion, intravenous ceftriaxone, and antiseizure medications. There was improvement in clinical and laboratory abnormalities and he was extubated on day 8, when noted to have severe choreoathetoid movements and dystonia which were treated with pacitane, tetra-benzazine, and levodopa. MRI brain showed T2 and FLAIR hyperintensities in bilateral globus pallidus. He was discharged on day 15. During 12 mo follow-up, he had normal

development, normal head circumference, and neurological examination.

hMPV is not an uncommon cause of acute respiratory tract infections (ARTIs) and mainly affects newborn, children, elderly and immunocompromised individuals [1, 2]. hMPV may lead to CNS involvement (seizures/status epilepticus, encephalopathy, or encephalitis). Pathogenesis of hMPV includes spread from lungs to brain (direct invasion); avoidance of immune system by poor induction of innate immune response, promotion of T-cell anergy, and interference with cell signalling pathways; and effect of viral glycoproteins [3, 4]. Systemic involvement in this infant could be due to direct viral invasion or damage by inflammatory/cytokine storm.

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## Declarations

**Conflict of Interest** None.

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