A Very Rare Combination of Hantavirus Cardiopulmonary Syndrome and Hanta Hemorrhagic Fever with Renal Syndrome

Sir,

Hantavirus in humans is less commonly reported because the disease is either asymptomatic or mimics other common illnesses such as scrub typhus, leptospirosis, malaria, and dengue fever. The two variants of hantavirus are HCPS reported from Brazil, Argentina, Chile, and HFRS reported from European and Asian countries.[1-3] Herein, we present a unique case with classical features of HCPS and HFRS combination.

A 21-year-old presented with complaints of 6 days of fever, upper abdominal pain, nausea, and body pain. Five days after the onset of fever, he developed breathlessness Grade-II (NYHA) that progressed to Grade-IV (NYHA) in a day, along with palpitations and headache. On examination, the patient was tachypneic with generalized sweating, Glasgow Coma Scale-15/15, pulse rate −130 bpm, blood pressure −100/60 mmHg, respiratory rate −60 cpm, saturation − 65% in room air, and 96% with continuous positive

airway pressure. Mild icterus was present along with JVP elevation to 10 cm H20. Bilateral diffuse crepitations were present with tenderness over the right hypochondriac and epigastric regions. On catheterization, high-frothy, red-colored urine were collected. ABG showed metabolic acidosis with respiratory alkalosis.

Investigations favored AKI and hemodialysis was planned. The patient had persistent thrombocytopenia and developed hypotension on his 2nd day. Two-dimensional echo showed global hypokinesia with reduced ejection fraction and he was started on noradrenaline infusion. The patient developed a conjunctival hemorrhage of the right eye on the 3rd day. Computed tomography (CT) abdomen and pelvis stated hepatosplenomegaly with mild ascites. Testing is done for scrub, leptospirosis, dengue, and malaria turned out to be negative. Acute inflammatory markers were highly elevated. The cardiac panel showed a picture of myocarditis. Blood and urine cultures were negative. After 4 days of intensive care unit (ICU) stay, the condition improved. The patient's father also had similar complaints and was treated symptomatically in the ICU just 1 week before the events. Considering the similar presentation in two people living in close quarters, the patient was tested for and confirmed to be hantavirus immunoglobulin M (IgM) positive.

Hantavirus infection is a very rare presentation in Asian countries. To hasten diagnosis, commercial enzyme-linked immunosorbent assay and indirect immunofluorescence assay were used to detect anti-hantavirus IgM and immunoglobulin G. After ruling out the most probable diagnoses and in view of acute pulmonary renal syndrome with highly suspicious infective etiology, the patient was tested and confirmed to be anti-hantavirus IgM positive with evident features of both HCPS and HFRS.

High-resolution CT revealed confluent consolidation in bilateral lung fields with multicentric ground-glass patches in the upper lobe as seen in Figure 1.

Although very rare, hantavirus should be considered a differential diagnosis because of its high mortality rate of almost 40%. Immediate medical intervention will be life-saving and early courses of anti-inflammatory measures could prevent cytokine storms.[4-6]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

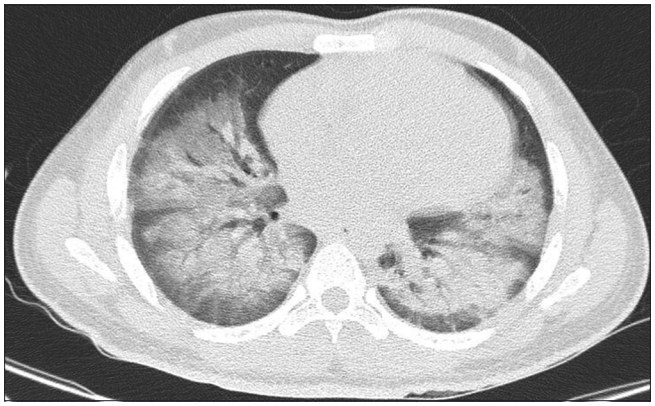

Figure 1: HRCT chest of the patient. HRCT: High-resolution computed tomography

Research quality and ethics statement

Authors followed applicable EQUATOR Network (https://www.equator-network.org/) guidelines, notably the CARE guideline, during the conduct of this report.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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