



Multisystem Inflammatory Syndrome in Children: A Mimicker of Severe Dengue

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Received: 29 June 2020 / Accepted: 16 October 2020 / Published online: 23 October 2020
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To the Editor: The Severe Acute Respiratory Syndrome - Corona Virus 2 (SARS-CoV2) pandemic has unearthed a novel syndrome called pediatric inflammatory multisystem syndrome temporally associated with SARS-CoV2 (PIMS-TS) in Europe, or multisystem inflammatory syndrome in children (MIS-C) by the World Health Organization and in the USA [1, 2]. Pediatricians in developing countries need to be aware of the overlapping features of MIS-C with tropical fevers.

We describe a 9-y-old boy with high fever, vomiting and shock. Hemoglobin was 13.2 g/dl, total leucocyte count (TLC) 8000/mm³, platelet count 135,000/mm³ and C reactive protein (CRP) 105 mg/L. Dengue NS1 antigen was negative. He was referred with a diagnosis of ‘dengue like illness.’ He had periorbital edema, conjunctival congestion and an erythematous rash. Severe dengue, scrub typhus and bacterial sepsis were considered. He was stabilized with oxygen, intravenous (IV) fluids, epinephrine infusion, and antibiotics.

Investigations showed hemoglobin of 10.2 g/dl, TLC 4500/mm³ (lymphocytes 10%), platelet count 51,000/mm³, CRP 270 mg/L, hyponatremia, hypoalbuminemia, and mild transaminitis. Echocardiogram showed ejection fraction of 40%. Polymerase chain reaction for SARS-CoV2 was negative. On day 8, he developed red, cracked lips and ‘strawberry tongue’. Serum ferritin was 330.4 ng/ml. SARS-CoV2 serology was negative. Older age, gastrointestinal symptoms, lymphopenia, thrombocytopenia and myocardial dysfunction favoured MIS-C over Kawasaki disease (KD) [3]. IV

methylprednisolone was started at 10 mg/kg/d. Echocardiogram on day 11 revealed dilated left anterior descending and right coronary artery (+3.16 and + 3.4 z scores). Intravenous immunoglobulin (IVIG) at 2 g/kg was infused. He was discharged on day 14 on aspirin and clopidogrel.

Severe dengue, with fever, abdominal symptoms, rash, shock, myocardial dysfunction, and bicytopenia closely mimics MIS-C [4, 5]. Oral mucosal findings, raised inflammatory parameters, anemia and coronary artery abnormalities if present can differentiate MIS-C from dengue fever.

Due to overlapping features, a syndromic approach is recommended in the management of tropical fevers [4]. MIS-C should be considered in the syndrome of fever with rash/thrombocytopenia, which includes dengue fever, rickettsial, meningococcal infection, malaria, leptospirosis, and viral exanthems. Expedient administration of IVIG can change the outcome in MIS-C. Meticulous clinical evaluation, basic investigations, and echocardiogram can be valuable for timely diagnosis of MIS-C.

Acknowledgements We would like to thank Dr. Rajashekhar and Dr. Keshavamurthy ML at the Indira Gandhi Institute of Child Health, Bangalore, India for their contribution in the clinical management of this patient.

Compliance with Ethical Standards

Conflict of Interest None.

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