



# COVID-19-associated Multi-Inflammatory Syndrome in Adults (MIS-A): look into the eyes!

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A 27-year-old patient, with no other history than a mild SARS-CoV-2 infection 1 month earlier, was admitted to the hospital for febrile diarrhea.

Bilateral subconjunctival hemorrhage (Fig. 1A) with no alteration of visual acuity, exudate or pain, along with tender cervical lymph nodes, pharyngitis and a diffuse erythematous rash raised the suspicion of coronavirus disease 2019 (COVID-19) associated multi-inflammatory syndrome in adults (MIS-A).

Three days after admission, the patient complained of shortness of breath, with cardiac silhouette enlargement and right pleural effusion on chest X-ray, while it was normal upon admission (Fig. 1 B, C). Transthoracic echocardiography confirmed cardiogenic shock with severe

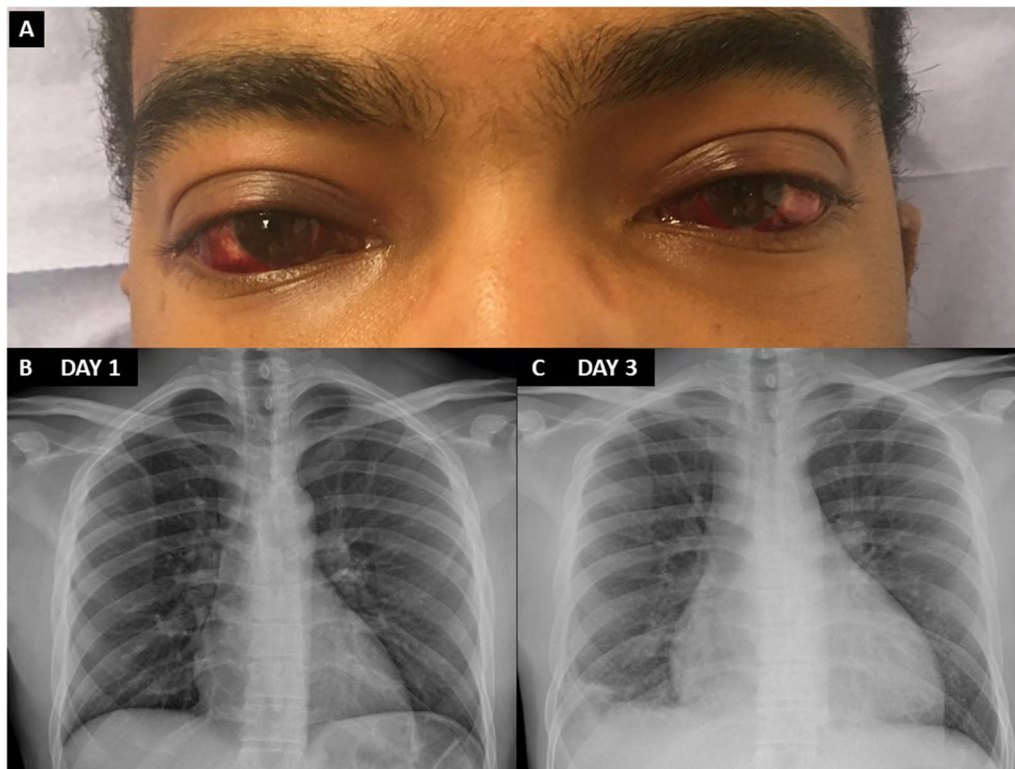
biventricular dysfunction. After treatment with intravenous immunoglobulins, steroids and 4-day veno-arterial extracorporeal membrane oxygenation (ECMO), the patient fully recovered.

In the absence of a more likely alternative diagnosis, MIS-A should be evoked in adults with recent SARS-CoV-2 infection presenting with fever, severe cardiac illness (including new onset of biventricular dysfunction like here), rash and non-purulent conjunctivitis, which can be accompanied with new-onset neurologic signs, shock / hypotension, abdominal pain, vomiting, or diarrhea, thrombocytopenia and inflammation.

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**Fig. 1** Picture showing bilateral extensive subconjunctival haemorrhage commonly observed during COVID-19-associated Multi-Inflammatory Syndrome in Adults (MIS-A) (Panel **A**). Admission (Panel **B**) and Day 3 (Panel **C**) chest radiograph showing acute cardiac silhouette enlargement and right pleural effusion as signs of acute cardiac failure

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#### Declarations

#### Conflicts of interest

On behalf of all authors, the corresponding author states that there is no conflict of interest.

#### Informed consent

Informed consent for publication was obtained from the patient.

#### Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Received: 16 February 2022 Accepted: 3 March 2022

Published: 14 March 2022