

Sinus bradycardia as the initial manifestation of multisystem inflammatory syndrome in children

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Background: While cardiovascular complications, including arrhythmias are now a recognized manifestation of Multisystem inflammatory syndrome in children (MIS-C), there are no reports of primary bradycardia preceding the clinical presentation. We sought to describe a case series of sinus bradycardia as an initial manifestation of MIS-C.

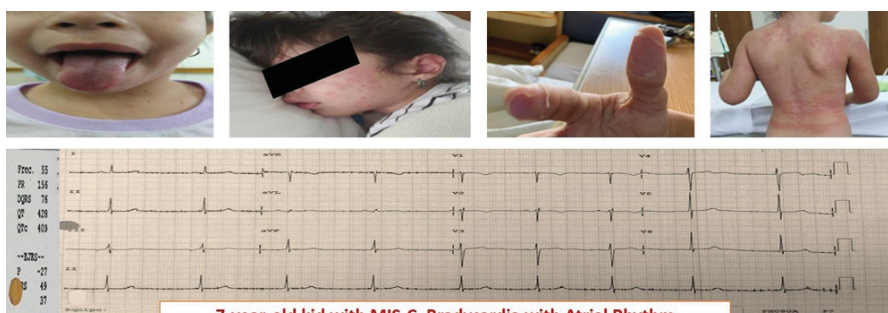
Methods: We included a series of 10 consecutive patients with confirmed COVID-19 who met WHO and CDC criteria for MIS-C, who developed sinus bradycardia with a heart rate measured in the awake state that was below the normal range for age for children, as an initial manifestation of the disease, in a prospective observational multicenter study. Patients underwent clinical, laboratory evaluation, ECG, Holter, telemetry, echocardiogram, chest X Ray, and a chest CT scan.

Results: Of the 10 patients included, 6 were male, with a mean age of

6.52±5.35 years, range 4 months to 14 years. All cases were Hispanic. Bradycardia was transient and did not merit treatment. Coronary abnormalities were noted in 6 cases; 4 patients had mild coronary ectasia; 9 patients had pericardial effusion with no evidence of tamponade. All patients had a mild clinical course; none had shock, heart failure, the need for mechanical ventilation, or died. All blood markers (Troponin, BNP, Platelet count, C-reactive protein, D-dimer, Ferritin) returned to normal levels by discharge/follow-up with a favorable outcome including resolution of coronary dilatation in all but 2 in which aneurysm persisted.

Treatment: All patients received steroids and low-weight-molecular heparin 10 patients, 8 aspirin and 8 intravenous immunoglobulins.

Conclusion: Sinus bradycardia may be the initial manifestation of MIS-C, usually transient and mild. Physicians should be aware of this presentation.



7-year-old kid with MIS-C. Bradycardia with Atrial Rhythm

Kid, MIS-C. Bradycardia/Atrial Rhythm