

# Pattern of clinical manifestations and outcome of Multisystem Inflammatory Syndrome in Children (MIS-C)

Banan Alrewaithi<sup>1,2</sup>, Mohammed Olfat<sup>1,2</sup>, Asmaa Jokhdar<sup>1,2</sup>, Moro Aljohani<sup>1</sup>, Reem Tharwat<sup>1</sup>, Shaima Alhazmi<sup>1</sup>

<sup>1</sup>Pediatric Rheumatology section, <sup>2</sup>Pediatric department, King Salman Medical City, Ministry of Health, Medinah, Saudi Arabia

## Background:

Multisystem inflammatory syndrome in Children (MIS-C) is a rare but serious complication associated with COVID-19. It has variable clinical presentation based on age and time of presentation and clinical subtypes. Our objective was to study the clinical, laboratory evaluation, treatment and outcome in childhood multisystem inflammatory syndrome.

## Methods:

We performed a single-center retrospective cohort study of children with evidence of MIS-C between May 2020 and June 2021.

The study included 13 hospitalized patients who were younger than 14 years old.

## Results:

Thirteen patients were diagnosed with (MIS-C). 7 of them (53.8%) were female. The median age of presentation was 7 years old. 92.3% had no comorbidities. 69.2% had history of contact with COVID-19 patients. The median time from exposure to presentation was 4 weeks. However, only two patients (15.3%) had positive PCR. Most of our patients were noted to have conjunctivitis with puffy eyes and GI symptoms (92.3%). At presentation (76.9%) had skin rash and sore throat, 61.5% had respiratory symptoms; 30.7% of them required invasive mechanical ventilation. Moreover, (84.5%) had depressed cardiac function and echocardiographic abnormalities. 69.2% of them required inotropic support. All patients were treated with IVIG and high dose steroid according to the treatment strategy guided by ACR protocol on June 2020 (clinical guidance for pediatric patients with MIS-C). 76.9% of them received adjunctive biological medications. Most patients recovered completely and the survival rate was 92.3%.

## Conclusion:

Multisystem inflammatory syndrome in Children (MIS-C) is a serious condition that requires high index of suspicion. However, early diagnosis and early treatment with adjunctive Anakinra or/and Tocilizumab may improve the outcome.