5/21/2020

Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with Coronavirus Disease 2019 (COVID-19)

Interim Guidance

(*Subject to change: see dates and revisions at end of document*)

PURPOSE

This document aims to ensure that clinicians are aware of current guidance regarding *Multisystem Inflammatory Syndrome in Children* (*MIS-C) Associated with Coronavirus Disease 2019 (COVID-19),* including the case definition and guidance on reporting to local health departments.

BACKGROUND

- Clinicians in the United Kingdom[1], New York City and New York State have reported cases of children with multisystem inflammatory syndrome (many of whom tested positive for SARS-CoV-2 infection by RT-PCR or serologic assay). Additional reports of children presenting with severe inflammatory syndrome with a laboratory-confirmed case of COVID-19 or an epidemiological link to a COVID-19 case have been reported by authorities in other countries[2].
- On May 14, 2020, the Centers for Disease Control (CDC) issued a Health Advisory regarding a multisystem inflammatory syndrome in children (MIS-C) associated with coronavirus disease 2019 (COVID-19), along with a case definition for this syndrome[3].
- There is limited information currently available regarding the risk factors, pathogenesis, clinical course, and treatment for MIS-C[3].

CDC Case Definition for Multisystem Inflammatory Syndrome in Children (MIS-C)[3]

- An individual aged <21 years presenting with fever[i], laboratory evidence of inflammation[ii], and evidence of clinically severe illness requiring hospitalization, with multisystem (≥2) organ involvement (cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic or neurological); **AND**
- No alternative plausible diagnoses; **AND**
- Positive for current or recent SARS-CoV-2 infection by RT-PCR, serology, or antigen test; or COVID-19 exposure within the 4 weeks prior to the onset of symptoms

[i]Fever ≥38.0°C for ≥24 hours, or report of subjective fever lasting ≥24 hours
[ii]Including, but not limited to, one or more of the following: an elevated C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), fibrinogen, procalcitonin, d-dimer, ferritin, lactic acid dehydrogenase (LDH), or interleukin 6 (IL-6), elevated neutrophils, reduced lymphocytes and low albumin

Additional comments

- Some individuals may fulfill full or partial criteria for Kawasaki disease but should be reported if they meet the case definition for MIS-C
- Consider MIS-C in any pediatric death with evidence of SARS-CoV-2 infection

ESSENTIAL ACTIONS

- All health care providers should maintain a high index of suspicion for MIS-C.
- Suspected cases of MIS-C **should be referred immediately** to a tertiary care center.
- Tertiary care centers are asked to consider a collaborative approach in the management of these patients by convening a multispecialty committee (comprised of pediatric critical care, cardiology, hematology, infectious disease, and rheumatology/immunology) that provides coordinated clinical care guidance for each patient while (1) confirming patients meet the case definition, and (2) ensuring that appropriate diagnostic and treatment resources are readily available for this patient population.
- Hospital infection preventionists should be notified immediately upon recognition of patients meeting case definition to initiate public health reporting.

TESTING

- Hospitals must assess for current or recent SARS-COV-2 infection by performing a combination of RT-PCR, antigen test and/or serology (as available) in patients who are under 21 years of age and present with symptoms compatible with MIS-C associated with COVID-19.

REPORTING

- Healthcare providers and laboratories are required by the Control of Communicable Disease Code to report suspected or known MIS-C associated with COVID-19 cases to the local health department.
- When an MIS-C associated with COVID-19 case is suspected to be or is known to be (laboratory-confirmed case) the cause of death in an individual, this should be reported to the local health department.
- Hospitals must submit pre-defined data elements on MIS-C patients through Illinois' National Electronic Disease Surveillance System (I-NEDSS). NOTE: Electronic laboratory reporting alone will not suffice for this syndrome.
- Hospitals should ensure complete reporting of co-morbidities and details of previous outpatient, inpatient or emergency department visits through I-NEDSS as applicable.

Revisions and Updates

5/2020	Interim Guidance developed

[1] Royal College of Paediatrics and Child Health Guidance: Paediatric multisystem inflammatory syndrome temporally associated with COVID-19, https://www.rcpch.ac.uk/sites/default/files/2020-05/COVID-19-Paediatric-multisystem-%20inflammatory%20syndrome-20200501.pdf

[2] Verdoni L, Mazza A, Gervasoni A, Martelli L, Ruggeri M, Ciuffreda M, Bonanomi E, D'Anitga L. An outbreak of severe Kawasaki-like disease at the Italian epicenter of the SARS-CoV-2 Epidemic: an observational cohort study. Lancet. 2020. Advance online publication, doi: 10.1016/S0140-6736(20)31129-6 https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31103-Xfulltext

[3] CDC Health Advisory, Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with Coronavirus Disease 2019 (COVID-19), CDCHAN-0032, May 14, 2020