To: All North Carolina Health Care Providers  
From: Erica Wilson, MD, MPH, Medical Epidemiologist  
Subject: Multisystem Inflammatory Syndrome in Children Associated with COVID-19 (3 pages)  
Date: May 14, 2020

This memo is intended to provide information regarding identification and reporting of a pediatric multisystem inflammatory syndrome potentially linked to COVID-19.

Background

A possible link between COVID-19 and a serious inflammatory disease in children and teenagers has been reported in multiple European countries and recently in the United States.

The specific features of this inflammatory syndrome are still being determined, but reports include features of Toxic Shock Syndrome and/or Kawasaki Disease. Additional reported features include laboratory evidence of inflammation and single or multi-organ dysfunction.

Case Classification

An individual aged <21 years presenting with fever (measured or subjective lasting at least 24hrs), laboratory evidence of inflammation (e.g. elevated CRP, elevated troponin, etc), 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.

Note that patients may present with typical or incomplete Kawasaki disease or symptoms similar to toxic shock syndrome. This multisystem inflammatory syndrome should be considered in any pediatric death with evidence of SARS-CoV-2.

Reporting

Clinicians are requested to report suspected cases of multisystem inflammatory syndrome in children to the NC DPH Communicable Disease Branch at 919-733-3419.

NC DPH requests that clinicians complete the patient summary form (attached) and submit completed forms to NC DPH Communicable Disease Branch via secure fax at 919-733-0490 to the attention of “MIS-C surveillance”.
Additional information, including admission and discharge notes and relevant laboratory results, should be provided along with the patient summary form.

Patients presenting with suspected multisystem inflammatory syndrome should be immediately referred for specialty or critical care as indicated. Patients meeting criteria for Kawasaki disease should receive appropriate treatment for that condition.

References

cc: Dr. Jean-Marie Maillard, Communicable Disease Branch Medical Director
    Evelyn Foust, Chief, Communicable Disease Branch
    Dr. Zack Moore, State Epidemiologist
North Carolina Patient Summary Form
Multisystem Inflammatory Syndrome

Name of physician who can provide additional clinical/lab information, if needed:

Affiliation

Phone: ______________________ Email: ______________________

Name of main hospital that provided patient’s care: __________________________________________

State: _______ County: __________________________

1. Today’s date ___/___/____ (mm/dd/yyyy)
2. Patient first name ___________________________ 3. Patient last name ___________________________

4. Sex: ☐ M  ☐ F  5. Date of birth ___/___/____

Residence: 6. State _______ 7. County __________________________

8. Race: ☐ American Indian or Alaska Native ☐ Asian ☐ Black or African American 9. Ethnicity: ☐ Hispanic or Latino

☐ Native Hawaiian or Other Pacific Islander ☐ White (check all that apply) ☐ Not Hispanic or Latino

10. Date of onset of symptoms ___/___/____ (mm/dd/yyyy)

11. Date of admission to first hospital ___/___/____

12. Date of discharge from last hospital ___/___/____ (or ☐ still hospitalized at time of form submission)

13. Did the patient die from this illness? ☐ yes ☐ no ☐ unknown 14. If yes, date of death ___/___/____

15. SARS-CoV-2 test result

a. Molecular/PCR ☐ positive/detected ☐ negative/not detected ☐ indeterminate ☐ not done

b. Antigen ☐ positive/detected ☐ negative/not detected ☐ indeterminate ☐ not done

c. Serology/antibody ☐ IgM positive ☐ IgG positive ☐ Total antibody positive ☐ negative ☐ not done

16. Did the patient have known exposure to COVID-19 in the past four weeks? ☐ yes ☐ no ☐ unknown

17. Other testing done:

a. Respiratory viral panel ☐ yes ☐ no ☐ unknown if yes, date ___/___/____

Results: ☐ normal/negative ☐ abnormal/positive

b. Blood culture ☐ yes ☐ no ☐ unknown if yes, date ___/___/____

Results: ☐ normal/negative ☐ abnormal/positive

c. C-reactive protein ☐ yes ☐ no ☐ unknown if yes, date ___/___/____

Results: ☐ normal/negative ☐ abnormal/positive

d. Complete blood count (CBC) ☐ yes ☐ no ☐ unknown if yes, date ___/___/____

Results: ☐ normal/negative ☐ abnormal/positive

e. Metabolic panel (BMP or CMP) ☐ yes ☐ no ☐ unknown if yes, date ___/___/____

Results: ☐ normal/negative ☐ abnormal/positive

f. Other __________________________________________

18. Symptoms:

☐ Fever ☐ Abdominal pain ☐ Confusion ☐ Conjunctivitis ☐ Diarrhea ☐ Headache ☐ Lymphadenopathy

☐ Mucus membrane changes ☐ Neck swelling ☐ Rash ☐ Respiratory symptoms ☐ Sore throat

☐ Swollen hands and/or feet ☐ Syncope ☐ Vomiting ☐ Other __________________________________________