Critical Care
MIS-C Management Guidelines
Most Recently Updated: 1/10/23

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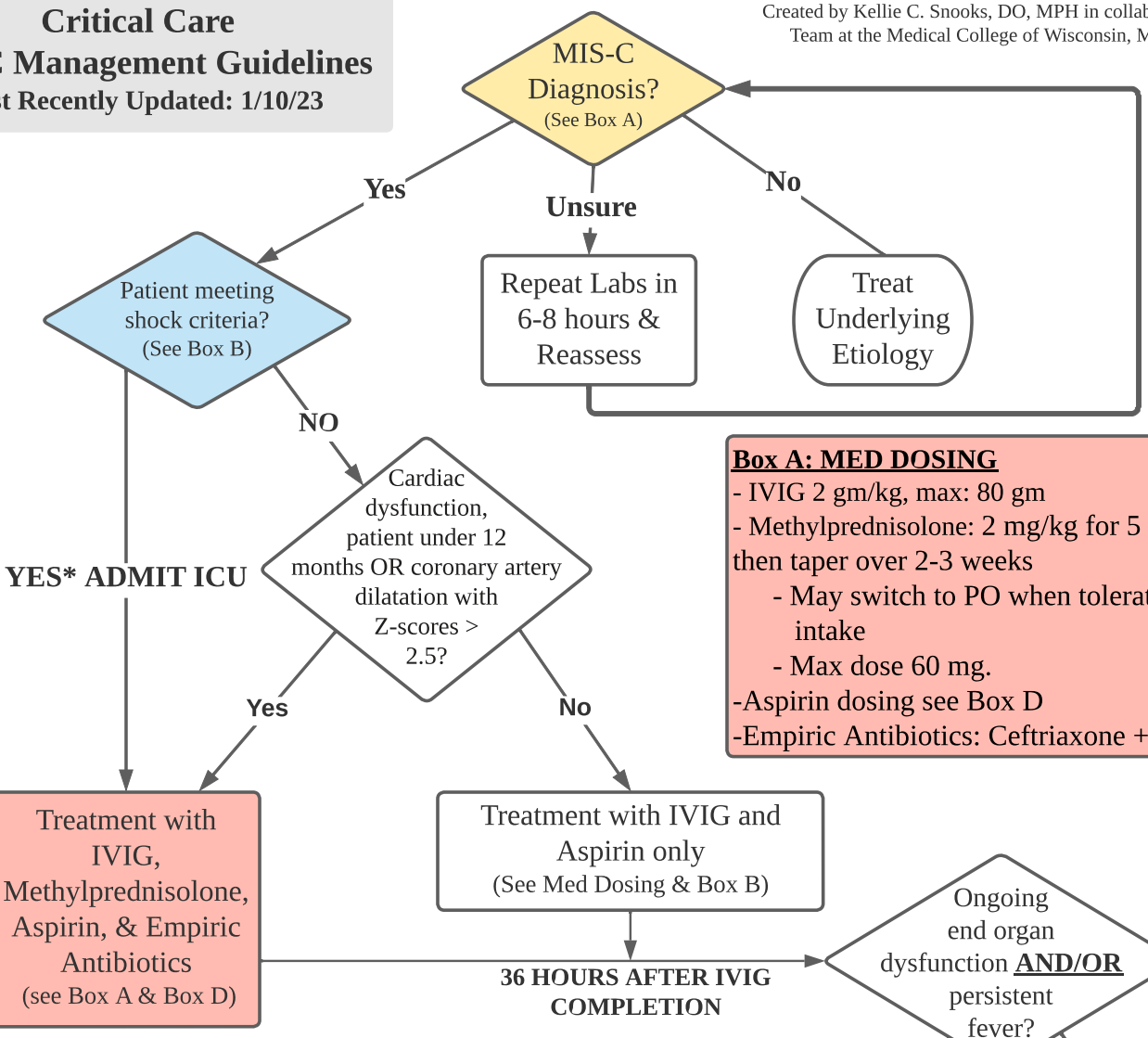

Box A: MED DOSING
- IVIG 2 gm/kg, max: 80 gm
- Methylprednisolone: 2 mg/kg for 5 days, and then taper over 2-3 weeks
  - May switch to PO when tolerating oral intake
  - Max dose 60 mg.
- Aspirin dosing see Box D
- Empiric Antibiotics: Ceftriaxone +/- Linezolid

Box A
CDC MIS-C Case Definition (new 1/1/2023)

- A patient under 21 yrs presenting with subjective or documented fever, CRP >3.0 mg/dL, and evidence of clinically severe illness requiring hospitalization with new onset multisystem organ involvement* **AND**
- No alternative plausible diagnoses **AND**
- Detection of SARS-CoV-2 nucleic acid/antigen during current hospitalization or up to 60 days prior, detection of antibody associated with current hospitalization, or close contact with confirmed/probable COVID-19 case in the 60 days prior to hospitalization

***Multisystem Involvement per CDC (≥2/4)**
- CV: Coronary artery dilation/aneurysm, elevated troponin, LV EF <55%, Shock
- Mucocutaneous: Rash, Oral mucosal inflammation, conjunctivitis/conjunctival injection, extremity edema/erythema
- GI: Abdominal pain, vomiting, diarrhea
- Heme: Platelet count < 150k, ALC < 1,000

Box B
Definition of Shock

- Any patient requiring: >40 cc/kg of fluid resuscitation, inotropic support, AND/OR evidence of severe end organ dysfunction

Box C
Cardiac Testing/ Placement

- Obtain baseline EKG and Echo for on admission (see page 2)
- For any patient with shock and/or hemodynamic instability, ECHO to be obtained on arrival to W4/W5
  - EF <30% or VIS Score > 10: Contact CICU on call for situational awareness
  - Consider transfer to W3 if worsening shock/end organ dysfunction despite escalating inotropes in first 24-36 hours **OR** discussion for mechanical support

Box D
Aspirin Guidelines

- **Coronary Involvement OR Kawasaki Disease:** Moderate Dose Aspirin until afebrile then transition to low dose aspirin for a total of 6 weeks. If afebrile, start low dose.
  - **Cardiac dysfunction on ECHO with normal coronaries AND all other MIS-C patients:** Low dose aspirin x 6 weeks
  - **MODERATE DOSE**: 30-50 mg/kg/d divided in q6h dosing
  - **LOW DOSE**: 3-5 mg/kg/d once daily, max dose 81 mg

ADDITIONAL INFO

Other Considerations for ICU Admission

- Encephalopathy, Acute respiratory failure, Evidence of severe end organ dysfunction.

Clinical Improvement:

-Defined as Defervescence and lack of progression of shock/end-organ disease

If diagnosis of MIS-C is unclear:

- Monitor CBC, CMP, ESR, CRP at a minimum of every other day until either meeting criteria or alternative diagnosis is clear

-Order Hold Red Top Tube to be saved in lab for possible further workup (*call lab for order*)

If vaccinated against COVID-19:

-Order Triage Misc Test "WDL nucleocapsid COVID IgG"

Cardiology Recommendations

- Cardiology should be consulted in the setting of Shock, Elevated Troponin/BNP, EKG changes.

-For patients admitted to ICU: May transfer to acute care service following completion of IVIG **AND** improvment in hemodynamics

ECHO Timing

-- *If patient in shock and hemodynamically unstable, ECHO to be obtained on admission to W4/W5.*

- If patient is hemodynamically stable and admitted to Acute Care ECHO to be obtained within 24 hours of admission (Ok to wait until AM if admitted overnight)

Labs

- Repeat troponin with other routine labs

Hematology Recommendations

- MIS-C should be considered an addiitional risk factor for VTE prophylaxis.
- Consult if 1. Development of thrombosis, 2. Unexplained thrombocytopenia with anticoagulation, 3. Significant coagulopathy, 4. Renal failure, 5. Patients not meeting criteria for VTE prophylaxis in whom there is heightened clinical concern for VTE and/or the role of anticoagulation and/or antiplatelet therapy in their management, 7. When anticoagulation is felt to be needed after discharge from hospital

ID Recommendations

- ID consult should be considered to ensure appropriate evaluation of alternative infectious diagnoses that can be missed and/or difficult to diagnose after initiation of therapy.
- Most of these would involve taking a detailed exposure history and correlations/concerns with diagnoses like toxic shock syndrome, tick borne illness, other infectious etiologies.
- If clinicians are confident in the diagnosis without other infectious concerns based on presentation/history, ID consult could be deferred.

Rheumatology Recommendations

- Consult not necessary for all MIS-C patients.

-Follow guidelines in place.

-Please consult with concerns for refractory MIS-C as above or if Ferritin >500 AND two cell lines down on CBC

REFRACTORY MIS-C

Defined as persistent fever or "significant end-organ involvement despite initial therapy"; Persistent fevers 36 hours after initial IVIG dose completion

If concerns for refractory MIS-C-

Consult Rheumatology

Treatment:

1. Anakinra, 10 mg/kg/d

OR

2. If patient has not yet received Methylprednisolone: Initiation of methylprednisolone at 2 mg/kg/d

OR

3. If patient had received methylprednisolone as part of inital treatment: intensification with pulse methylprednisolone dosing 30 mg/kg/d (max 1gm) for 1-3 days

LONG TERM PLANNING

Discharge Criteria:

Afebrile, taking adequate PO, hemodynamically stable, laboratory testing trending toward improvement

Cardiology:

- Imaging: Cardiac MRI does not need to be obtained prior to discharge. ECHOs to be obtained at 2 weeks, 6 weeks, and 6 months post discharge.

-Cardiology appointment 2 weeks after discharge for those with cardiac involvement.

-Patients without cardiac involvement (Normal Troponin, BNP, ECG, and Echo) and non-Kawasaki disease phenotype follow up cardiology appointment is needed 6-8 weeks following discharge

Hematology:

If patient meets criteria for VTE prophylaxis on discharge consult Hematology and follow up in 2 weeks.

-No Rheumatology follow up needed.

-No repeat labs necessary upon discharge if demonstrating clinical improvement.

-No competitive athletics/contact sports: For patients with cardiac involvement OR discharged on lovenox.