Yale NewHaven Health

TO: **YNHHS MEDICAL STAFF, PHARMACY STAFF, AND NURSING STAFF**

FROM: **YNHHS COVID-19 TREATMENT TEAM**
YNHHS AD-HOC BLOOD BANK TEAM FOR COVID-19 CONVALESCENT PLASMA
YNHHS ANTIMICROBIAL STEWARDSHIP COMMITTEE

SUBJECT: **COVID-19 Convalescent Plasma (CCP)**

DATE: **February 16, 2021**

S: There is a need to update the YNHHS criteria for the use of COVID-19 convalescent plasma.

B: Recently, the FDA updated the Emergency Use Authorization (EUA) for the use of CCP in the potential treatment of COVID-19 and states:[1]

- The CCP product should contain of a high titer COVID-19 antibodies.
  (2 units of "low titer" or unknown titer CCP cannot be substituted for high titer CCP)
- CCP should be administered early in the course of COVID-19 illness.
- CCP should not be administered to patients who require high levels of supplemental oxygen (e.g, HFNC, NIV, or mechanical ventilation) given the lack of benefit in this patient population.

The updated guidance is based on results from recent randomized controlled trials (RCT) of CCP. In a RCT of elderly patients by Libster et al, the benefit of CCP in reducing the risk for progression to severe respiratory disease was found if high titer CCP was used and if it was administered within 3 days of symptom onset.[2] In the CCP arm of the REMAP-CAP trial of ICU patients, CCP was unlikely to be beneficial, with a very low probability (2.2%) that it improved the chances of decreasing the number of days requiring intensive care support or death by more than 20%.[3]

A: The YNHHS criteria for the use of CCP has been updated to reflect the FDA's changes to the CCP EUA.

R: **For YNHH:**
Patients who are being considered for CCP, should be reviewed for enrollment in the randomized clinical trial for CCP (https://www.ynhhs.org/patient-care/covid-19/for-employees/for-employees.aspx)

For GH, BH, LMH, WH, and YNHH (who do not meet criteria for the above CCP RCT):

1. If CCP is being considered, the patient must meet the following criteria:
   - Patient has a confirmed positive SARS-CoV-2 PCR result
     AND
   - Patient has been admitted for ≤ 3 days
     AND
   - Patient requires ≥ 3 liters of oxygen supplementation

2. Patients who have any of the following criteria are excluded from CCP consideration:
   - Requiring > 6 L/min of oxygen supplementation or NRB, HFNC, NIV or MV
   - History of anaphylaxis to blood products or history of IgA deficiency
   - D-dimer > 10mg/L
   - Evidence or suspicion of thrombosis
   - Active bleed or high risk for bleeding
   - Beyond 3 days of hospitalization (from initial admission date)

3. Any patient who receives CCP, at minimum, should be given intermediate dose prophylaxis anticoagulation with enoxaparin for 72 hours, regardless of d-dimer. After 72 hours, the need for intermediate dose prophylaxis can be re-assessed based on d-dimer levels and risk for thrombosis.

NOTE:
Since CCP must be ordered from a regional blood center by the blood bank, the consult for CCP will be evaluated from 7AM to 4PM during the business hours of regional blood centers.

Additionally, given the need to procure high titer CCP as outlined the FDA's EUA, it may take up to 36 hours from the time CCP is ordered until it is available for administration.

References:
1. Anonymous. Fact Sheet for Health Care Providers: EUA of COVID-19 Convalescent Plasma for Treatment of COVID-19 in Hospitalized Patients. https://www.fda.gov/media/141478/download
2. Libster R et al. Early High-Titer Plasma Therapy to Prevent Severe Covid-19 in Older Adults. *N Eng J Med* 2021; Jan 6;NEJMoa2033700. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7793608/pdf/NEJMoa2033700.pdf
3. Anonymous. REMAP-CAP International Trial of SARS-CoV-2 Convalescent Plasma Pauses Enrollment of Critically Ill COVID-19 Patients. https://www.imperial.ac.uk/news/211493/blood-plasma-treatment-limited-effect-sickest/