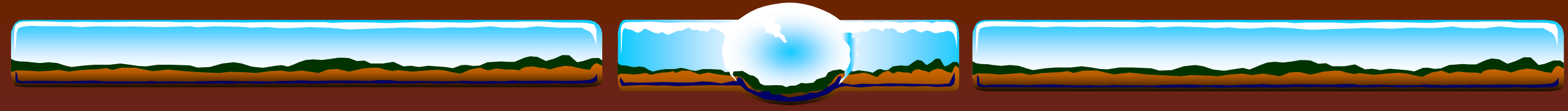





COVID-19 Clinical Update

Jonathan Vilasier Iralu, MD, FACP

Indian Health Service Chief Clinical Consultant
for Infectious Diseases



Disclosures



Physical distancing, face masks and eye protection to prevent person to person transmission of SARS-CoV-2 and Covid-19: Chu et al, Lancet, June 1, 2020

- ❖
- ❖ WHO Metanalysis of 172 observational studies (n=25,697)
 - ❖ Transmission lower with distancing of > 1 meter c/w < 1 meter (aOR 0.18)
 - ❖ Protection improves with distance: RR change is 2.02 per extra meter
 - ❖ Face mask greatly reduces risk of transmission (aOR = 0.15)
 - ❖ N95 superior to Surgical Mask
 - ❖ Eye Protection associated with less infection: aOR = 0.22



COVID-19 mortality: racial disparities


- ❖ **Hospitalization and Mortality among Black Patients & White Patients with COVID-19** (Price-Haywood, NEJM, 5/27/2020)
 - ❖ 3481 Patients at Ochsner Health Center in New Orleans, Louisiana
 - ❖ 70.4% Black non-Hispanic, 29.6% white non-Hispanic
- ❖ **Findings**
 - ❖ **Black race, advanced age, high burden of illness, Public Insurance, residence in low income area, and obesity were associated in increased admission odds**
 - ❖ 76.9% of patients hospitalized were black (only 31% of the population is black)
 - ❖ 70.6% of those patients who died were black
 - ❖ Black race was not independently associated with higher mortality Hazard Ratio 0.89 (0.68-1.17)
- ❖ **Johns Hopkins U and American Community Survey** (Yancy, JAMA, May 19, 2020):
 - ❖ Infection rate 3 x higher and death rate 6 x higher in black compared with white counties



Venous Thrombosis among Critically Ill Patients with COVID-19

Nahum et al JAMA Network Open May 29, 2020

- ❖ **Prospective case series** of all patients admitted to ICU
- ❖ 34 patients enrolled
 - ❖ All patients received prophylactic anticoagulant Rx
 - ❖ U/S of the legs performed and repeated at 48 hours if negative
- ❖ **Results:**
 - ❖ 76% PCR positive, 24% negative but had typical CT appearance for COVID-19
 - ❖ 44% had diabetes, 38% had HTN, 9% had obesity
 - ❖ 65% had DVT on admission and 79% by 48hrs



Coagulation abnormalities and thrombosis in patients with COVID-19 (Levi et al, Lancet June 2020)

❖ Lab Findings:

- ❖ Increased D-dimer to 0.5 mg/L in 46%. → if > 1 mg/L, RR death is 18
- ❖ PT is mildly prolonged
- ❖ Platelets decreased to < 150K in 70-95%, severely decreased to <100K in 5%
- ❖ Elevated LDH and strikingly high ferritin
- ❖ Elevated TNF-alpha, IL-1 and IL-6 contribute to cytokine storm

❖ Pathology:

- ❖ Platelet-rich thrombotic deposits in lung and other organs



Coagulation abnormalities and thrombosis in patients with COVID-19 (Levi et al, Lancet June 2020)

❖ Clinical:

- ❖ 35-45% of patients have thromboembolic disease

❖ Prevention:

- ❖ Follow D-dimer, PT and platelets every 2-3 days

- ❖ All patients should receive prophylactic LMWH

- ❖ Patients with severe disease may require a higher doses (four trials in progress)



Treatment Update: Convalescent plasma transfusion for treatment of COVID-19

Rejendran et al J Med Virol 2020

- ❖ Review of 5 papers on convalescent plasma transfusion (CPT): 4 in China, 1 in S Korea
 - ❖ 27 patients identified and given 200-2400 ml of convalescent plasma
 - ❖ 15 male, 12 female included with age range of 28-75
 - ❖ Comorbidities: COPD (2), Cardio-/Cerebro-vascular disease (1), Hypertension (7)
 - ❖ All patients received antiviral drugs in addition to CPT
 - ❖ Twenty-one were critically ill, 15 were mechanically ventilated
 - ❖ All 27 patients survived (mortality 0%)
 - ❖ Single facial red spot noted in 1 patient only.
- ❖ **CONCLUSION:** “...In addition to antiviral/antimicrobial drugs, CPT could be an effective therapeutic option with promising evidence on safety, improvement of clinical symptoms and reduced mortality”



Effect of Convalescent Plasma Therapy on Time to clinical improvement in patients with severe and life threatening COVID-19 Li et al, JAMA 6/3/2020

- ❖ Open label multicenter **randomized controlled trial** in Wuhan
- ❖ 103 patients with lab confirmed Covid-19 with respiratory distress, hypoxia, shock, organ failure or requiring mechanical ventilation
- ❖ Half got CPT and half got standard treatment (median age 70)
- ❖ Clinical improvement in 52% with CPT and 43% without ($p=0.26$)
- ❖ Primary outcome (Discharge or 2-point drop in 6 point severity scale): 91% with CPT vs 68% without
- ❖ **No significant difference in 28-day mortality**
- ❖ **No difference from time to randomization to discharge**



More COVID-19 Training

- ❖ **CDC:** <https://www.cdc.gov/coronavirus/2019-ncov/hcp/index.html>
- ❖ **ACP Physician Handbook:** <https://www.acponline.org/clinical-information/clinical-resources-products/coronavirus-disease-2019-covid-19-information-for-internists>
- ❖ **UW Protocols:** <https://covid-19.uwmedicine.org/Pages/default.aspx>
- **UW IDEA Program:** <https://covid.idea.medicine.uw.edu/>
- **NIH Guidelines:** <https://covid19treatmentguidelines.nih.gov/>
- ❖ **Brigham and Women's Hospital:** covidprotocols.org

