**EMCrit Care Panel Chatroom Summary (4-9-20)**

**PPE/Precautions**

* What are you doing to protect your staff members with patients on high flow O2?
* Kristi Maso:
  + we have patients wear a simple mask over the opti-flow and staff wears full PPE with N95

**Testing/Labs/Cellular & Molecular Considerations**

* Since COVID is supposed to bind to the Beta sub unit of the Hgb and displace iron, are you seeing sign of iron overload?
* Anthony Lagina:
  + The early GI sx of Fe [overload] may be difficult to separate from viral course, as would be metabolic acidosis, Iron-induced coagulopathy, hepatic dysfunction, cardiomyopathy, and renal failure
* Robert Klever
  + I think that it would take ALOT to cause iron overload.... normal body has ~4 g of iron it. Unless they came in with iron problems.... e.g., sickle cell I don't see how that's possible.
* Have you noticed a predominance of type A blood type in the very sick?
* No response
* Is the group finding that the lactates are rather low relative to the degree of hypoxia?
* Jacob Keeperman
  + I have not been using the lactates much
* How well (sensitive) are the COVID-19 tests doing in detecting cases?
* Andrew Sweeny
  + The test is horrible (viral PCR). We are doing in house viral PCR and sensitivity is low. I’d say 50%. [https://www.thennt.com/review-covid-analysis-april-2020/](https://meet.google.com/linkredirect?authuser=0&dest=https%3A%2F%2Fwww.thennt.com%2Freview-covid-analysis-april-2020%2F)
* What about elevated BNP?
* Andrew Sweeny
  + ICU has a testing panel they’re requesting and anecdotally seeing high BNPs
* Erik Olsen
  + I think it might be thrombi and R strain
* Any thoughts on anti-histamines?
* Matthew Hewston
  + For anyone interested there is an on this: Mast cells and influenza A virus: association with allergic responses and beyond. Lead author Amy C. Graham. PubMedID: 26042121. I think once patients reach ARDS and have been intubated, antihistamines could be worth a try.
* Any other thoughts on anti-viral mediated targets for treatment?
* Blaine White
  + Think about the Virus! Covid NSP1 binds our immunophilins, and that is essential for replication. Overexpression of NSP1 drives an inflammatory storm. Tacrolimus blocks NSP1

**Hypoxia/Oxygenation/Ventilation/Intubation**

* we've heard and seen trends where peripheral pulse ox is in the low 80s whereas a forehead or ear pulse ox will be in the 90's+. Have you noticed this too and comment on why this may be?
* Andrew Sweeny
  + We are not seeing hypercapnia. Usually alkalotic. We are seeing confirmation on VBG of severe hypoxemia.
* If patient is saturating 77-80% and says they feel good but tachypneic what would you do?
* Kristi Maso:
  + I would place on HFNC and prone
* Jacob Keeperman
  + Agreed
* Matthew Hewston
  + Agree, prone for 12-16 hours daily in our patients is showing some of the best improvements in oxygenation.
* What if HFNC/proning doesn’t work?
* Krisi Maso
  + Let them ride
* Hannah Ferenchick
  + We can now increase flow (on HFNC) to 40 L per/minute… but we are running very low on high flows, and may be out of them at times
* What other treatments might be used beside high flow? When do you intubate?
* Andrew Sweeny
  + We are using non-invasive… I literally work in a COVID snow globe. We reached a point where avoiding non-invasive was completely non feasible. We have numerous patients on curtain isolation on bipap. No choice at this point given our volume, and resources.
* Kristi Maso
  + We only intubate for AMS and agitation which we think might be secondary to hypoxemia. We also are tolerating sats of 80% on the vent
* Jacob Keeperman
  + we have to remember to treat the patient, not the numbers. A hypoxic patient who is talking and is not complaining of severe shortness of breath does not need intubation most of the time
* Are you seeing patients presenting in arrest/near arresting?
* Andrew Sweeny
  + Yes. We’ve had a few dropped off dead in a cab.
* Kristi Maso
  + We had a case yesterday. Exactly like that. Talking, coded, pulm edema
* Jacob Keeperman
  + we are seeing that very regularly in St. Louis
* Cameron Kyle-Sidell
  + If a COVID patients go brady --> make sure to check oxygen supply
* Are any of you using alternative machines for ventilators?
* Hannah Ferenchick
  + We are not [at DMC], as our RTs aren’t trained on them
* We are ending up using a lot of APRV due to the profound hypoxia. Is everyone else doing the same? Are any other alternative ventilation strategies working better for anyone?
* No response

**Sedation/Paralytics**

* Any tips on sedation? What do you do with the agitated patient who is intubated?
* Cameron Kyle-Sidell
  + Our patients are generally VERY sedated RAAS -3, which is mostly a function of having TOO many patients to keep awake. We probably have 80 intubated patients NOT in the ICU

**ECMO**

* Any experiences with ECMO, as it is one of the things ATS recommended if they don’t respond to proning?
* Hannah Ferenchick
  + Anecdotally I haven’t heard great outcomes w/ COVID ECMOs but I don’t know numbers

**Fluids**

* What kind of hydration and fluid management strategies are you using?
* Snigdha Sharma:
  + I am leaning towards keeping them in a little positive balance.
* Hannah Ferenchick:
  + I am the same Snigdha. I don’t see improvement with diuresis, and everyone has AKI
* Cameron Kyle-Sidell
  + Initially I thought patients should be diuresed (like usual pulmonary ICU management), however, I am leaning more towards giving some fluids -- we are taking people far on HFNC and they are becoming dehydrated

**Antibiotics**

* What are your policies on antibiotic use?
* Jacob Keeperman
  + we are using broad spectrum antibiotics
* Andrew Sweeny
  + No abx in general. I know that ICU is using a protocol to make a decision later on, but I doubt that’s a reliable discriminant for utility. If someone has a dense consolidation on CXR, then I will add abx.

**Steroids**

* How are you all approaching steroid use?
* Hannah Ferenchick:
  + I’m expanding my steroid use, Many hospital’s protocol have 7 days methylprednisone at least
* Cameron Kyle-Sidell:
  + i'm all for steroids earlier, just waiting for some official recommendation to let me feel good about starting them on everyone
* Matthew Hewston
  + We are starting steroids early, any patient with SaO2 < 93% on room air is started on them per the DMC new guidelines. Early steroids have not anecdotally caused worse outcomes in our patients.
* Snigdha Sharma
  + We are leaning towards starting steroids early... I think they are helping, even though it’s premature to say.

**Coagulation**

* Have you seen an increase in PEs in these patients?
* Jacob Keeperman:
  + yes, we have seen a lot of microvascular disease, we are putting pretty much all of the icu patients on therapeutic anticoagulation, we are not scanning them either
  + 98% of ICU patients have had elevated d-dimers
* Kristi Maso:
  + Yes, We aren't scanning them, empirically placing on anticoagulation with increasing d dimers
* Andrew Sweeny:
  + Many had high d dimers that we we’re scanning initially. Almost none had PEs.
* Are you using lovenox or heparin drips? Indications for use?
* Jacob Keeperman:
  + we are seeing a lot of AKI, so avoiding lovenox
* Kristi Maso:
  + Heparin drips
  + We're using it in patients with d dimers that are 6x level of normal
* Brian O’Neil
  + I think the heparin will be ineffective due to low AT3
* Do you feel the D-Dimer increase is due to the inflammation or clotting?
* Hannah Ferenchick/Jacob Keeperman:
  + Probably both
* Kristi Maso:
  + Agree probably both, but we will also see dimer elevations without systemic cytokine storm

**Ethics Considerations**

* How are you handling DNR/DNI?
* Andrew Sweeny:
  + I’ve made myself into a DNR angel. We have reinforced two physician signature. This is becoming more common across NYC. We are seeing lower vent needs because we are making these patients DNI.
* Are people performing CPR in suspected COVID patients, what considerations are being made?
* Hannah Ferenchick
  + At DMC the coding situation is very physician dependent. I have not been willing to offer CPR to patients in multi organ failure or with refractory hypoxia due to the futility and high risk exposure. Families are updated and usually very understanding
* Brian O'Neil
  + We are not doing CPR [in the ED at DMC] unless there is readily reversible process like PTX or hyperkalemia.
* Matthew Hewston
  + In our ICU [at DMC], CPR is abbreviated to no more than 10 minutes. All of them are intubated so one suggestion I had to limit our exposures was to put a sterile drape over them before starting CPR so that the person over them doing compressions is less at risk; not proven but likely wouldn’t introduce harm
* Jacob Keeperman
  + We are only performing CPR once an airway has been secured,...and we are using the sheets for all patients in the ED and hospital. CPR is not working for the multisystem organ failure or the persistent hypoxic patients, but we must remember some of these people are having STEMIs and other reversible things
* Kristi Maso
  + Our ICU patients are DNR if they have any multiorgan failure. We have DNR by futility
* Andrew Sweeny
  + I’m generally not doing CPR. EMS is no longer bringing in cardiac arrest.