1. **If a person is hospitalized on immunosuppressants (ie weekly methotrexate) what is protocol to continue or stop medication and the possibility of flare up of disease.**

Depends on the severity of the underlying disease of course, but for the typical rheum patient on weekly methotrexate or biologics, rheum consensus would be to hold. HCQ probably continue. We'll touch on tocilizumab in talk

Infectious Disease - agree that in most patients we would recommend holding immunosuppressing medications

2. **Surprisingly, the SAG rep did not mention the VA study that came out yesterday, that showed no difference in progression of the disease, and an increased mortality in the HCQ group? Any comment?**

Retrospective study, but yes suggest that HCQ not a slam dunk! Lots going on in terms of well-designed prospective randomized trials to get us answers asap!

3. **What are the recommendations for target O2 sat for patients with Covid in Calgary. Literature suggests <95% is an indication for O2 therapy.**

Target oxygen saturations are 92-96%. Higher in pregnant patients. As per the SCN/AHS document.

4. **Is the MEOC Calgary Zone based or is it province-wide? Is there one MEOC or several?**

This is zonal for dept of Med.
Can contact your zone leads to see if DOM equivalent.
Many of the developed resources are on AHS INSITE.

o ZEOC.South@ahs.ca
o ZEOC.Calgary@ahs.ca
o ZEOC.Central@ahs.ca
o ZEOC.Edmonton@ahs.ca
o PHC.ZEOCNorth@ahs.ca

5. **Daily MD Assessment Slide mentions Conservative Fluid Management. The thinking coming out of UK is that this may be wrong in Covid? As these patients may be severely dehydrated, with their persisting high fever, before hospitalization, and the hypovolemia may be contributing to the hyper coagulable condition and ensuing renal pathology. What do you think?**

I have seen those data also. The adage of 'dry lungs are happy lungs' balanced against the volume depletion and AKI risk is definitely a concern. I'm not sure one approach is better for all patients.

6. **Does the sensitivity of the test depend on the stage of the disease?**

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It probably decreases over time but there is limited data about this. Over the course of illness it becomes more likely for lower tract specimens to be positive while upper tract specimens might be negative.

7. **Are (all) admitted patients masked? If so, are they masked at all times?**

No. They are only masked if leaving the room for a procedure

8. **Would you empirically treat with antimicrobials if you have an asplenic patient with COVID?**

Given 25% chance and superinfection that would be a fair, especially if pt admitted. Need to make sure choice of antibiotics cover encapsulated organisms like Strep

9. **Do we have pre-test probability estimates assigned to the classification (probable, possible)? Is the pre-test ever below 10% if a patient is showing up with ILI, GI symptoms or non-specific constitutional symptoms?**

There is no tool to help with this I am aware of. If you're really unsure and the diagnosis of COVID will change management then ID/Resp consult would be appropriate

10. **From a practical standpoint is it possible to attempt to limit IV medications or SC treatments when po alternatives exist to limit the number of HCW visits/PPE/exposures etc?**

Patients with mild disease probably don't need antibiotics at all. Those with moderate disease but well enough to tolerate an oral diet, it would be reasonable to use oral antibiotics.

11. **Is Bio-K probiotic indicated if antibiotics started?**

Likely no contraindications to this especially if broad spectrum abx

12. **Is there information that supports that intubation and PPV as an independent risk factor compared to NIV management?**

The actual ventilation should not be as high risk unless accidental circuit connection. Intubation has risk during procedure, especially if bag mask is used to preoxygenate. NIV continuous risk of aerosilization if seal is suboptimal

13. **Could you talk about COVID toes or other dermatologic manifestations of COVID please**

https://www.ejpd.com/images/acroischemia-ENG.pdf

14. **Is there a role for routine D-dimer testing? Are there any clinical trials underway for this or other prognostic labs?**

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D-dimer is part of the order set. Should be done at baseline and if decompensation (at minimum)

15. **How long does patient have to be off BIPAP/CPAP before we can discontinue the airborne isolation?**

Essentially airborne only during the AGME. No "drop time" required once the procedure is terminated.

16. **If NIV is not indicated, why are other sites in the world having such success with NIV for COVID patients?**

So to the best of my knowledge, NIV has been used in overwhelmed health systems where intubation became not an option. I am nota aware of any data to support that BIPAP/CPAP vs high-flow O2 or vs intubation is associated with better outcomes.

17. **How can community physicians help in hospitals if needed or at peak? Do we need to register somewhere?**

For Calgary zone https://www.calgarymdcovidresponse.ca or else through CPSA

18. **I thought optiflow provided a higher concentration at lower flows. If you're running optiflow at 4L/min, is it still aerosol generating?**

you can adjust the flow rate but my understanding that it's the humidification of the gas that makes it an 'AGMP'

19. **So the D-dimer goes up - when do you do a CTPA to diagnose PE**

Based on clinical scenario - the D-Dimer will not be of much help here (as in cancer, pregnancy, post-op etc..)

20. **In Calgary / Alberta / Canada, are we seeing a difference in survival between men and women? Should this drive a difference in care? If so, what?**

In Italy ICUs it's 80% men surprisingly. The same diff not extreme in Chinese data. The diff in Alberta is smaller and def wouldn't let sex drive clinical decision making. Men seem to have more risk for MI

21. **If D-dimer is indicative of high risk for PE or thrombosis they why is not indicated for Covid -19 (as per the respiratory presenter)**

Don't use D-dimer to rule out PE (it's not sensitive). D-dimer is often elevated in covid (not necessarily due to PE)

22. **Pt on NOAC (rivoxiban etc) will you advise to stop & switch LMWH wt based dosage?**

Yes this should be considered on admission.

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23. **Is the macrophage activation syndrome same in both older person and younger pt?**

I haven't seen any data on this in COVID-19 patients.

24. **Is there a threshold of D-dimer level that is associated to deterioration? What I have seen is that the majority of hospitalized patients, D-dimer is elevated, so how to assess for serial readings, and if continues to be elevated but otherwise patient clinically better, does that preclude discharge planning?**

In the Wuhan cohort, >1ug/mL was associated with increased mortality.

25. **Elevated IL-6 and elevated D-dimers levels have been associated with poor prognosis in other viral conditions such as HIV. D-dimer elevation can be independent of thrombosis. Can a panelist comment?**

Maybe Dr. Skeith can weigh in as well… from a rheum perspective re: cytokine storm, this is the main challenge with making the diagnosis as a lot of these markers could just be from the infection/acute phase response from the virus itself. This is really why we thought having a team to help discuss these cases was the best approach, as will be key to tie in with the clinical presentation and remainder of lab values and trends.

26. **For those of us at rural sites without SCM where can we find these admission order sets?**

On insite you can find ordersets on the CKCM website here:
https://insite.albertahealthservices.ca/tools/cgv/Page14163.aspx

27. **Can you comment on the use of JAK inhibition in cytokine storm. I believe there is one series with baricitinib in patients who are rapidly deteriorating.**

I haven't seen anything published on this, please send along if you have. I think I would be very cautious with this unless data emerges given the increased risk of Zoster seen in the trials with JAK inhibition

28. **If biologics are thought to blunt cytokine storm would that imply patients on them (ie: anti-TNF in IBD patient) are (a) protected or (b) masking severity of covid?**

The short answer is we don't know, but good question - I know some registries are being set up which may help answer these questions. I think important to consider each biologic separately. The ones being considered in hyperinflammation is typically directed to innate immune activation, including IL1, IL6 - this is why tocilizumab/anakinra are being considered as treatments.

29. **Does the COVID Inflammation Team also exist for Edmonton Zone admitted patients?**

I think it was an initiative put together by a DoM group of Heme/ID/Rheum/ICU here in Calgary. I'm sure they would be happy to support a group coming together in Edmonton zone.

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30. **If we routinely monitor D-Dimer for risk prognostication during the patient stay - how does the test result change management?**

Good question. Probably a good reason to do it at baseline and not daily .. but to consider using it in select cases as a sign of clinical deterioration.

31. **What was the website re: frailty --- exercise suggestions, etc?**

https://findingbalancealberta.ca has some great resources for falls in general, but they have a handout on exercises that a lot could do on their own with a chair.

Additionally https://www.movescanada.ca/resources-patients-families/ also has several handouts on exercises for persons to do.

These are great for any patient, but useful to give patients on isolation, if safe so they can do some helpful exercises

32. **When a patient has been transferred out of ICU how much longer do they typically need to stay in hospital?**

Many discharged from icu on 6L O2 or so... not sure how long they have to stay for general rehab.

33. **When are patients considered "recovered" ie when can they be deisolated safely**

10 days or symptoms (whichever is longer) - unless LTC, in hospital, then it's 14. potentially longer if immunosuppressed and need swabs weekly

34. **Can we use tocalizumab for very sick patients with cytokine storm? If so, how do we access that medication?**

Its all evolving - this is one of the reasons the COVID0-inflammation team has been set up. Current plan in Calgary, call rheum/heme on call, they will liase with the COVID inflammation team to discuss case and facilitate access.

35. **What is a typical course registration cost for a lecture?**

CME pricing varies from location to location. University of Manitoba has a minimum $25/hour policy for CME at their University. Please give what you can.

36. **I am working in the USA and there tends to be a 'looking down' on using combinations of antipsychotics with benzos in acutely agitated patients such as mixing Haldol and Ativan (such as a "B52" IM injection). I was taught that these together can decrease associated potential side effects**

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of each one. Is this something that you are familiar with? Do you recommend using just one antipsychotic at a time?

We recommend not using them unless absolutely necessary due to significant risk of harm to themselves and others.
we prioritize the use of non-pharmacologic strategies as they have excellent evidence.

In the setting of delirium we do not recommend benzodiazpines unless the patient is in alcohol withdrawal, benzo withdrawal or needs them for acute seizure management. Benzodiazepines prolong delirium, increase the risk of falls and complications so we do not recommend them.

So in the setting of delirium we would not recommend the use of haldol and ativan simultaneously, the risk of the beznodiazpines outweighs the risk of benefit- we would recommend low dose antipsychotics with careful monitoring only in those who have severe agitation/aggression. Antipsychotics do not reduce delirium duration either and
have anticholinergic burden, QTc prolongation, sedation/aspiration and long term use has more complications with VTE, stroke, cardiovascular issues etc.

37. **Why LMWH and not unfractionated heparin?**

Studies showing less bleeding complications/non inferiority/less HITT. Given pts thrombocytopenic it may be better with LMWH

38. **There was good intro about how to admit a patient with COVID, but what are the prognostic indicators to deem them improved and no longer infectious (ie when can we stop contact droplet precautions) or would they be discharged home with this isolation precaution?**

Patients should stay on droplet precautions for 14d and until symptoms resolved while in hospital - call IPC for help with discontinuation of precautions in hospital. At home, patients should be isolated for 10d from onset of symptoms and until symptoms are resolved, whichever is longer.

39. **What proportion of patients are in ICU but not intubated?**

Around 25% are not intubated

40. **Do you have the data averagely how may ICU day for COVID patients before they died and moved out ICU for other hospital beds?**

Typically 10-14 days ICU admission days locally

41. **Just tried to review "MEOC daily bulletin" and I was asked to give a password**

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I think for some things (and hopefully not forever), you sign in with your AHS login. Did that work? And if you don't have an AHS login, I can't see why most of the info shouldn't be available to all. Will check with MEOC team.

42. **In Alberta are there any patients have second infection?**

We have seen patients with secondary bacterial infections. One of the early patients presented with pneumococcal meningitis + COVID

43. **Can MEOC site be accessed by anyone outside of Calgary? Could you provide a link?**

https://www.departmentofmedicine.com/meoc-hospital-care/

44. **In NY, Italy, UK etc. how well have they actually been able to match good routine ICU care given shortages in beds, personal, drugs, and equipment, unlike Germany, and Canada.**

NIV in EDs has been used mostly due to lack of ventilators and ICU beds Hopefully we don't get to that point here.

Good question. We see a lot of shared outcome data but not process data in the case series coming out.

45. **Has a guideline for discharge and removal of isolation been released for those COVID+ that have clinically recovered?**

Check back on the website in the next day - the guidelines should be up
https://www.albertahealthservices.ca/topics/Page17074.aspx

46. **What kind of steroid do you use systemic vs inhaled? For all patients or selective?**

Not sure if I'm answering your Q here. Inhaled steroids would only be for usual clinical indications (asthma, some COPD). We are NOT recommending systemic steroids for treatment of covid here.

47. **What is the correlation between a patient's perception of shortness of breath and oxygen saturation?**

Poor correlation in general

48. **The photos/videos from Italy show a significant number of patients NOT on the ventilator, rather on NIV with Helmets. Those patients if intubated would have had increased the risk to HCProfessionals, increase morbidity, etc... NIV maybe an alternative on a surge, when intubation can be higher risk if not really needed.**

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Italy was using NIV (and they prefer helmets over masks) because of a lack of ventilators. 87% failure of NIV in their cohort reported April 9 2020. Lets hope we don't get to that point.

49. **Can you comment on all the cardiac manifestations they are seeing in ICU. Are questions being raised about empiric anticoagulation for the patients that are so unwell they need ICU given the thrombotic complications**

We are just doing our usual DVT prophylaxis so far. Will wait until some data out for modified (higher) DVT proph. (Also had a pt with hemorrhagic encephalitis so empiric treatment may be risky)!

50. **Your comment on RTPCR first NP swab being negative & next sample coming positive - is more to do with sample innoculum / operator error taking sample?**

Yes most first swab negative and subsequent swab positive are due to sampling error the first time. Also some patients as they progress in their illness may have negative upper respiratory tract specimens (NP/throat) and positive lower tract specimen (BAL/ET suction)

51. **What's the dosage of LMWT anticoagulant needed on admission? For how long?**

Typical dose is tinzaparin 4,500 units sc daily (75 u/kg daily for those weight >100kg). Other options depending on your formulary include enoxaparin 40 mg daily or dalteparin 5,000 units sc daily. During hospital admission - not enough data yet to recommend extended duration of LMWH after hospital discharge, as most of the risk is in ICU

52. **Can you share the link for donations- unable to find it on the registration page.**

Donation campaign http://c-fund.us/rkg

53. **Are we starting to use serology testing soon?**

APL is testing serology in known positive and negative patients. Different kits have very different testing characteristics - lots of controversy about unregulated kits in the US. Not likely to be in use soon

54. **Any new literature or suggestions in regards to severity/mortality in patients taking ACE inhibitors and ARB?**

Conflicting data. Consensus is to continue on current meds.

55. **Have you looked at a recent study in the States that they did a non-RCT trial that patients on HCQ was worse, death rate was double the non-HCQ arm? (I think it was something like 22% vs 11%).**

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I think this is the NEJM article; if I remember one health jurisdiction patients got it, another did not. Lots of issues with this study design of course, but I think at least puts the caution on jumping to treatment without RCTs

56. **What target SpO2 range seems reasonable for most COVID patients not in ICU? And the best SpO2 cue for discharge?**

92-96% on ward. For a pregnant pt I would target 98%. That's per ahs guidelines as well

The quoted target SpO2 is 92-96%. Having said that, patients won't qualify for O2 funding with a resting sat of 91%. While no real data to guide this, a walk test to ensure there's no severe exertional desauration as well might be helpful as a clinical parameter.

57. **Have there been any cases of spontaneous pneumothoraces in COVID patients in Calgary? I've seen some reports of this elsewhere. And if so, tube thoracostomy should be considered an AGMP but is not commonly cited in the common lists for AGMP.**

I am not aware of any in Calgary but agree for full precautions for chest tube insertion.

Have not come across. Certainly in ARDS / ventilated this is an issue. Chest tube systems should not generate aerosols, nor at insertion when using percutaneous techniques.

58. **The stats I saw showed the same difference for men having double the mortality in New York. Hard to extrapolate on any Calgary data given our numbers are so low here but it seems to be consistent across all of the populations reporting. Signed worried white middle-aged male.**

Man cold to extreme. Locally our bad inflammatory responses do seem to be male. (All the stemi cases as well as one pt with hemorrhagic encephalitis).

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