

CASE RECOMMENDATIONS

After review of the case presentation and discussion of this patient's case among the ECHO Community of Practice, the following suggestions have been made:

1. People tend to think of symptom onset as the onset of cough or shortness of breath; however, early, non-specific viral symptoms, like fatigue, could be present before the onset of those other symptoms.
 - a. Median incubation period after exposure is about five days.
 - b. The virus disseminates from the place it first attached, like the nose or upper respiratory, to the lungs. Starting a cough right at symptom onset could be indicative that the patient was symptomatic a few days before the cough presented. A symptom onset of a few days after exposure is a rapid onset.
2. Look at the initial test. If it is an RTPCR and has a cycle threshold, you can infer the viral load. High viral loads or cycle thresholds on the initial test portray probably more severe illness as well as risk factors.
3. Remdesivir is really the only approved anti-viral to block the viral replication. Famotidine could potentially help in the viral phase. The only other one would be pre-formed antibodies through convalescent plasma or a monoclonal.
4. Watch him for severe illness because his saturation is at 84 during this stage.
5. If they are this sick, they are probably starting overproductive, hyperimmune response, so blocking this with steroids is reasonable. However, there are thoughts that this is the stage we want the immune system to kick in to start creating its own reaction; pairing it with remdesivir to help block the viral replication is fine.
6. Be careful and watch this patient a little longer because of some of his risk factors (vital signs, rapid onset) could lead to an ARDS or a severe respiratory component.
 - a. Melatonin as an anti-oxidative and anti-inflammatory agent counters acute lung injury (ALI)/acute respiratory distress syndrome (ARDS) induced by viral and bacterial infections. Melatonin can be beneficial in critically ill patients via reducing vessel permeability, inducing sedation, decreasing agitation and increasing sleep quality.
7. Out of the lab results we didn't get:
 - a. Lymphocyte count is helpful even though it is not as directly affected by the virus itself but is the start of the inflammatory reaction because it comes up rapidly with the IL-6 blockade and some of the steroids.
 - b. When C-reactive proteins are on the high side (either 20 or 200 depending on your lab), steroids seem to have a clear benefit.
8. What is a superspreader?
 - a. Spreading can depend on the person and the environment.
 - b. With indoor spread, there is a 19-fold chance of spread indoors as compared to outdoors.

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- c. Some people exhale more droplets simply when they speak, at different levels of loudness, sing, or exercise. A person with this characteristic in an indoor/enclosed environment especially, but may also happen outdoors, could potentially lead to a superspreading event.

Consider presenting follow-up for this patient case or any other patient cases at a future ECHO session.

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