

AHA COVID-19 Clinical Guidance Series
Heart Failure

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Speaker 1:

Welcome, and thank you for joining us for this podcast, brought to you by the American Heart Association. This podcast is part of a series focused on sharing information with healthcare providers who are caring for patients during the COVID-19 pandemic.

Dr. Biykem Bozkurt:

This is Biykem Bozkurt, Professor of Medicine, Associate Director of Cardiovascular Research Institute, Director of Winters Center for Heart Failure Research from Baylor College of Medicine, and Chief of Medicine from Michael E. DeBakey Medical Center in Houston, Texas.

Dr. Biykem Bozkurt:

This is your power bite of what will be learned in this podcast. Heart failure patients are at a higher risk for adverse outcomes with COVID-19 infection. In addition to social distancing and hygiene and face cover, heart failure patients should show attention to maintain a healthy lifestyle, continue to take their cardiac medications including RAS inhibitors, remain active and most importantly remain in touch with their clinicians. And be aware that they can contact their clinicians virtually by telemedicine, including phone and video conferencing, or in-person, or can seek urgent or emergency care.

Dr. Biykem Bozkurt:

Heart failure symptoms can overlap with COVID-19. COVID-19 may present with fever, dry cough, fatigue, but symptoms can vary. If a heart failure patient has worsening symptoms, he or she should contact their clinician, seek attention and not wait until the compensated critical state.

Dr. Biykem Bozkurt:

Hello. Welcome to this podcast on COVID-19 and heart failure. I'm joined today by Dr Mark Drazner, Professor of Medicine, Clinical Chief of Cardiology at UT Southwestern Medical Center in Dallas, Texas, and Dr Eldrin Lewis, Professor of Medicine and Division Chief of Cardiovascular Medicine at Stanford University in California.

Dr. Biykem Bozkurt:

Welcome, Mark. Welcome, Eldrin. COVID-19 is affecting our world, especially our patients and our healthcare workers, in so many different ways. Mark, what is the risk for catching with COVID-19 and having adverse outcomes for our heart failure patients?

Mark Drazner:

Thank you, Biykem. That's a great question, and something that we're not entirely sure about. We do know, that many people who catch this virus in fact are asymptomatic. But we also know that patients or people who have cardiovascular risk factors, things like diabetes and hypertension, seem to be a particularly increased risk of having complications from the virus. So presumably patients with heart failure would also be in that category of having increased risk. Now, the good news is that patients can do things to minimize that risk. Things like social distancing things, six feet apart from people. Excellent hand hygiene, wearing coverings over your face when you're public and things like that.

Dr. Biykem Bozkurt:

Thank you Mark. Eldrin how can our heart failure patients differentiate their symptoms of COVID-19 versus heart failure, since both of them can present with shortness of breath?

Eldrin Lewis :

It's really difficult because with COVID-19 a lot of the symptoms including shortness of breath overlap with our symptoms that our patients will get. So difficulty breathing, chest pain, fatigue, cough are often very common. There are a couple of things that one can consider. The first is fever. The fact that fever is a very common sign in COVID-19, if a patient has fever in addition to all of their other symptoms, that should be a warning sign. The other is the rapidity of the change in their symptoms and especially the change in the quality of their symptoms. So if they're acclimated to having a little bit of fatigue and dyspnea but it's out of proportion and there's a rapid acceleration, then that should be a warning sign for patients.

Eldrin Lewis :

The third thing would be mental status changes. We find that a lot of patients with COVID-19 have some confusion and if there's any confusion that seen in a family member, we should teach our patients to reach out for help. And then finally, patients know when they're accumulating fluid, they have other signs, they have peripheral edema, they have weight gain if they're checking their weights on a daily basis, and sometimes GI symptoms. So if they don't have other signs and symptoms of heart failure, and especially in light of a fever or a potential at risk contact, they should really move forward.

Dr. Biykem Bozkurt:

Thank you Eldrin. And edema, swelling. Usually probably leans more towards heart failure than COVID-19.

Eldrin Lewis :

That's correct.

Dr. Biykem Bozkurt:

Mark, we're hearing a lot of potential myocardial injury cases. Can you elaborate how the myocardial injury is diagnosed and how often it's seen?

Mark Drazner:

Sure. I think there's two scenarios that providers and patients should know about. The first scenario is a patient has what I'll call kind of the typical COVID presentation that you heard about from Eldrin. Fevers, cough, perhaps developing a pneumonia. And it turns out that when you look at patients who present to the hospital, as much as 20% or one in five, have evidence of acute myocardial injury that we diagnosed by measuring something called high sensitivity troponin. Now, it turns out that that group of patients who have that troponin in their blood suggesting they have myocardial injury, are at increased risk of having complications.

Mark Drazner:

The second scenario though, and this is not yet well described in terms of the frequency, our patients could present with just kind of a typical cardiac presentation. Whether that be a myocardial infarction or something that seems like a myocardial infarction and turns out to be myocarditis or even new onset heart failure or decompensated heart failure. And what's a little concerning is that those patients do not have to have the more classical symptoms. They may, for example, not have any fever and just present with decompensated heart failure. And that's really where we don't yet know how common that presentation is, that second scenario, where it looks kind of like a garden cardiac presentation. But in fact is related to COVID.

Dr. Biykem Bozkurt:

Thank you Mark. Eldrin, What's our guidance for the heart failure patient who's stable at home? What should they do regarding their medications, diet and activity?

Eldrin Lewis :

Yes. I think the most important take home message is that they should do everything they can to remain stable. And part of that is really ensuring that they take all of their medicines. So I will really highlight the ACE inhibitors or inhibitors of the renin-angiotensin system. We know that the ACE II receptor as a part of the integration of the virus into cells. And so because of this there was a lot of concern about whether or not you're using ACE inhibitors and angiotensin receptor blockers can make a difference. And we just don't have the data. So the guidance from the American Heart Association and from other people would be to continue to take your meds so that you can remain stable. If someone were to become unstable, then that's a different question.

Eldrin Lewis :

In terms of the other medicines to make sure they have adequate supply of their medicines, preferably 90 days. Look to see if they can be delivered as opposed to them standing in line in their pharmacy because of exposure. And then in terms of diet, really making sure that they adhere to a low sodium diet and a fluid restricted diet. And this could be particularly challenging with the grocery stores are bare. So looking creatively to reach out to family members to ensure that you can get adequate low sodium diet.

Eldrin Lewis :

And then the last thing in terms of activities, we want them to become active but be active in the house. And so try to exercise a little bit if they can in their house. If they really have to go out, make sure that they're going out early in the morning where you don't have as many people in the park, and then wear a mask and kind of have social distancing to get the exercise. And make sure that there's adequate social distance.

Dr. Biykem Bozkurt:

Thank you Eldrin. Mark, what should our patients do if they have worsening symptoms? How should they contact the clinicians?

Mark Drazner:

Yeah. I think a pivotal message for the patients who are listening is that you want to make sure you maintain contact with your healthcare provider, whatever mechanism that is. If you're on the EHR and you can communicate that way or whether it's still calling them, it's very important during this time of uncertainty that you still maintain that contact with your healthcare provider. In terms of the telemedicine option, much of medicine is being moved to that in the current COVID climate. And it's really quite remarkable having done a number of these now, how much information from a provider perspective you can gain. You see the patient, you can have their loved one with them and provide information. You can review medications by having patients hold up pill bottles. You can even do a limited examination. You can look at the neck and see if the neck veins are elevated. You can have someone showing their legs and see if there's peripheral edema. So I've found that actually you can gain a lot of information over telemedicine.

Mark Drazner:

Now, if you're a patient and you notice that you have a change in your symptoms and you're not sure, it doesn't seem a dramatic change, you can contact your health provider in your standard fashion. But if you have a significant change that your breathing has gotten much worse and you're gasping or you're defibrillator shocked you, or you black out anything, that is a major situation really should called 911 and go to the hospital. Because nowadays, of course, even though there is COVID, it could be just a similar presentation way to your underlying heart problem and you certainly don't want to avoid getting care for that. So if this is significant change, please call 911 you can always go to the emergency room to get taken care of.

Dr. Biykem Bozkurt:

Thank you Mark. Eldrin, by early data, there appears to be racial and ethnic disparities in COVID-19 outcomes. Can you elaborate on this for us?

Eldrin Lewis :

Absolutely. It's really concerning. And I have to say this is preliminary data and it hasn't been bedded in peer reviewed journals. But when you just look at some of the States that have proposed or presented race data, if you look at African Americans for instance, in California they represent 9% of the population, but 17% of the deaths. But more strikingly if you look at States like Illinois where the black population is 30% of fatality rate from COVID-19 as of last week, was 69%. It was 70% in Louisiana with 32% of the population. And if you look in New York, you see a higher risk of fatalities for both Hispanic, so Latin X as well as African Americans.

Eldrin Lewis :

If you look at overall, the age adjusted rate of fatal lab confirmed COVID-19, certainly for Latin X patients, 22.8 versus 19.8 for African Americans. 10.2 for Whites and 8.44 for Asians. So we know that there are probably a lot of factors including access to care, maybe a comorbid illnesses all contributing. But we have to really ensure that we look at all populations as we try to mitigate some of the risks of fatality.

Dr. Biykem Bozkurt:

Thank you Eldrin. Mark, let's talk about the hospitalized heart failure patients. Can you comment on the management strategies for a heart failure patient requiring hospitalization with COVID-19? What are some of our treatment and management or research options?

Mark Drazner:

Absolutely, and of course the therapeutic landscape is rapidly evolving and as it at least today, we don't really have any proven therapies that have been shown to be effective. So we need to all keep that in mind at this current point. Of course, there's standard supportive care and if the patient's progress to develop respiratory failure, as most people have heard about being intubated and being placed on a ventilator can be sometimes necessary. I'm not getting into the specifics of the specific pharmacological therapies, kind of broad categories. The anti-inflammatories and the antivirals seem to hold promise, but I do think a message that is important at this day to get out is the critical role to get people to enroll in clinical trials. Unless we enroll patients into well conducted randomized clinical trials, we're never really going to figure out how to take care of this problem. So I think both for patient's willingness to participate, and for providers, enroll your patients in clinical trials is a huge message.

Mark Drazner:

Let me turn to the heart failure issue now specifically for the providers who are listening, and give you a few points there. Dr. Boss Kurt and I had the privilege of publishing a white paper that just came out today in circulation where there's a nice flow diagram that addresses how to address what we're calling the acute COVID cardiovascular syndrome, kind of a flow diagram. I'll just highlight some comments from that figure. First of all, echocardiograms, standard echocardiography, of course is sometimes difficult because of disinfecting the machine, additional PPE use for the scenographer, and so we do think the role of point of care ultrasound may be very valuable. Another point is that for patients who present with acute systolic heart failure, I think you want to have a pretty low threshold to consider the possibility of cardiogenic shock.

Mark Drazner:

We've seen number of ports now, patients have present with what looks like full minute myocarditis and I think the threshold to consider cardiogenic shock with its sampling, a central venous set off of a

PICC line or lactate some measure to make sure that you're not underestimating the severity of the illness. Another issue that comes up is we heard about not stopping RAS blockers at this point if you're on that continuously beforehand. But for patients who present with new onset heart failure questions come up, when should you start guideline directed medical therapy?

Mark Drazner:

And what we advocated in that white paper at least, is to make sure that the pulmonary status is stable. Because we all heard of cases who develop rapid respiratory failure leading to the need for intubation, which oftentimes associated with hypotension. If you happen to start the beta blocker or the ACE inhibitor or the RNA right before the patient got intubated, you may end up regretting that. And so we are advocating at least make sure that the pulmonary status is relatively stable maybe towards the end of the hospitalization and that would be the point of the time when you might consider initiating guideline directed medical therapy.

Mark Drazner:

And then the last point we made, the lost one I'd have to highlight at least, is the legacy effect of these patients develop myocardial injury and have a reduced ejection fraction or even just troponin leak during the acute injury is entirely unclear at this point. We don't know if those patients are going to go on to develop chronic heart failure down the road, but I do think for the providers listening, you probably going to want to reassess the left ventricular function either, if you haven't before, towards the end of the hospitalization if you have a point of care ultrasound. But certainly once the patient is no longer infectious, you probably want to get an echo and see what's going on and see if whether those patients should be initiated on guideline directed medical therapy.

Dr. Biykem Bozkurt:

Thank you, Mark. Thank you. Eldrin. The key takeaways for our audience include heart failure patients are at a higher risk for adverse outcomes with COVID-19. Therefore, they should show more precaution by social distancing, hand hygiene, and face cover. Stable heart failure patients should continue their standard medications including RAS inhibitors, remain active and follow a very healthy diet and low sodium diet, and more importantly, they should remain in touch with their clinicians using new modalities of care such as telemedicine or virtual visits. But don't be shy to utilize traditional models of care as well.

Dr. Biykem Bozkurt:

COVID-19 symptoms can vary but can present with fever, cough, and shortness of breath. If our patients are experiencing worsening breathing difficulty or clinical deterioration in the setting of possible COVID-19 infection, they should immediately seek medical attention. Similarly, even without COVID-19 infection, if heart failure symptoms worsen, heart failure patients should not refrain from contacting their clinicians and should seek attention to access care and be treated in a timely manner. Eldrin, any final thoughts on COVID-19 and heart failure?

Eldrin Lewis :

Yes Biykem. I think this has been great. The first thing that I would say is, it's really important to think of our patients as people who don't just have heart failure but often have comorbid illnesses. And we know that common comorbid illnesses include coronary artery disease, diabetes and hypertension, all of which have increased risk of COVID-19 infections and the consequences of it. So we have to really

encourage our patients to manage their diabetes, to realize that their blood pressure could go up if they have an acute COVID-19 infection. So kind of increased surveillance of their blood pressure. But really importantly, to manage their symptoms not related to heart failure including chest pain. A very disturbing finding last week is the fact that the number of acute ST elevation MIs has decreased over the course of the last month. But the number of sudden deaths and deaths in the community, increased. And I think we have to really pay attention to that.

Eldrin Lewis :

The second thing I would highlight is that it's important to control the emotions. We know that providers, physicians, nurses, the frontline healthcare workers are all anxious about COVID-19 because of the manifestations. Our patients are as well, so things such as stress, depression, anxiety, social isolation, all can basically wreak havoc on our patients. And when you have loss of a job, food demands, access to testing, as well as just knowledge of people who've contracted the disease and maybe have even died from SARS-CoV-2, I think it's important that we encourage our patients to reach out for help if they need it.

Dr. Biykem Bozkurt:

Thank you Aldrin. Mark, any final thoughts from your side?

Mark Drazner:

Yeah, thank you. First, it's always a pleasure to work with Dr. Boss Kurt and Lewis, so it's been a real privilege for me as well. I want to just kind of summarize four points. First, of course is that prevention is absolutely key here and we want everyone to practice excellent social distancing and hand hygiene. Avoiding this illness is by far the best approach. The second point is for those patients listening, if you have a significant change in your health status, if it seems urgent, you're having trouble breathing, seek emergent care. If it seems less urgent, please contact your provider. Don't just stay at home trying to tough it out, because it could be a warning sign.

Mark Drazner:

Third, a message for the patient and the provider, we need everyone who is eligible to enroll in clinical trials. This is the only way we're going to figure out how to take care of this illness in the best way. And then finally, for the providers listening to us, I think the new acute systolic heart failure in a setting a COVID is a interesting condition that we all need to be aware of, have a low threshold to consider cardiogenic shock, and also remember that typical guideline directed medical therapy, if the ejection fraction is still low, is likely going to be beneficial. We don't have hard data on that, but if we extrapolate, I think most of us would say, you want to start guideline directed medical therapy if the traction stays low, certainly once you identify that after the patient's infectious. So thank you for having me.

Dr. Biykem Bozkurt:

I would like to thank doctors, Drazner and Lewis for their informative contributions in our podcasts. And would urge our audience to return online to AJ Professional Heart Daily for additional podcast planned for the series, which include COVID-19 in stroke, diabetics, pulmonary hypertension, and other concurrent cardiovascular diseases during these challenging times in healthcare delivery. Thank you.

Speaker 1:

The views expressed here do not necessarily reflect the official policies or positions of the American Heart Association and American Stroke Association. For more information, please visit us@professionaldotheart.org.