

Transcript Details

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Recognizing & Addressing the Burden of COPD Exacerbations

Announcer:

Welcome to *Deep Breaths: Updates from CHEST* on ReachMD. This is a non-promotional, non-CME disease state educational program brought to you by CHEST in collaboration with and sponsored by GSK.

Dr. Christenson:

Welcome. Today we will be discussing the impact of COPD exacerbations. COPD exacerbations contribute substantially to disease burden in individuals living with COPD, including increased risk for mortality and comorbid cardiovascular disease, prolonged decline in quality of life, and lung function deterioration. (1) Recognizing exacerbations and implementing therapeutic strategies for treatment and prevention is critical for limiting exacerbation burden. I'm Dr. Stephanie Christenson from the University of California San Francisco, where I am an Associate Professor in the Division of Pulmonary and Critical Care, and I am here with Dr. Ron Balkissoon.

Dr. Balkissoon:

Thank you very much, Dr. Christenson. It's a pleasure to join you. Hi, everybody. My name's Ron Balkissoon. I'm a pulmonologist and I work at National Jewish Health. I was an Associate Professor. Resigned that position but remain as a staff physician seeing patients and doing various other activities. I look forward to our discussion today.

Dr. Christenson:

Great. So, I think this is a very important topic and I think we're going to start with a pretty classic question. How do we define exacerbations and characterize exacerbation severity, Ron?

Dr. Balkissoon:

Well, as you mentioned COPD is one of the major causes of death, and we know that it has a significant impact on society and that exacerbations can play a significant role. (1) But the first question we really have to ask ourselves is how we define exacerbations. And so, we've used the GOLD guidelines for many years now, that basically define an exacerbation as simply any acute worsening of respiratory symptoms, that are beyond the normal, day-to-day variations that lead to some alternative treatment. (1) But recently, there has been some concern or question about that definition, as far as it really allowing us to further, clearly, relate symptoms and underlying pathophysiology and what's happening for that patient in terms of inflammation with their COPD exacerbations, with such a definition. And so, there's been a real move to trying to change from that. First of all, we looked at what did we mean by a mild or moderate or severe exacerbation. And it really was based on essentially how the patient was managed. Simply a mild exacerbation referred to when a patient had some symptoms and they self-managed. (1) It didn't lead to the increased use of antibiotics or systemic steroids, whereas a moderate exacerbation was one where a patient didn't seek medical care, end up in the ER or hospitalized, and was treated with steroids and/or antibiotics.

And, then the severe exacerbation was really being defined by individuals who required hospitalization, emergency department visits, or ICU stays. (1) And that really defined these patients. But these are really very subjective criteria which aren't really digging into what's actually happening to these patients, so that we have an idea about what's happening medically to them. And so, there have been moves to revisit how we define COPD exacerbations, and how we could try to characterize which constitutes a mild, a moderate, or a severe exacerbation. And so, now what we're moving to is really trying to look at the ability to characterize these patients, not really based on what they're treated with, but more what are their physiologic characteristics, and what are these relating to in terms of the severity of their disease.

Dr. Christenson:

Great. So, let's keep moving on, and I think this is a really important point, because it really helps us understand how to treat and prevent COPD exacerbation. What puts a patient at increased risk for COPD exacerbations?

Dr. Balkissoon:

Well, there's several things that we know seem to increase the risk of people having exacerbations and future exacerbations, and obviously not everyone, but it's well-recognized that a history of a prior exacerbation is the strongest predictor of individuals who are likely to have a future exacerbation. (1,4) Also, we know that individuals who have decline or lower lung function have an associated increased risk of exacerbations. (1) Some of that may be that each exacerbation causes a loss of lung function, but there's also the subset of patients who seem to be rapid decliners, and there may be something about that patient population that makes them more prone to exacerbations as well. (1,5) Recent hospitalizations also obviously, not necessarily for COPD exacerbation, but recent hospitalization itself increases the risk. (2)

And that's really pointing to the fact that so many of these patients who have COPD have significant underlying cardiovascular comorbidities that may end them up in hospital as well. (1) We also know that if they're using their reliever therapy more frequently, that obviously predicts it. (1) The history of comorbidities we see so many people where they have frequent exacerbations and we find that they have silent reflux and aspiration, and you may know from the COPD gene study, that one of the things that strongly predicted future exacerbations was the presence of a hiatal hernia on their CT scan evaluation. (1,4) So, I think reflux is a huge part, but we can't forget the importance of underlying cardiovascular comorbidity probably plays a substantial role in a number of the deaths that patients who have COPD experience. (1,7) It's related to cardiovascular events when you look at all-cause mortality (1). And interestingly, depression is a comorbidity, but that points at poor quality of life. (1) It may reflect the severity of their disease, and so that's an important factor as well. Worsening symptoms, despite being on maintenance therapy, is another good predictor, (8) and then there are these other things like an increase in the ratio of pulmonary artery aorta cross-sectional dimension. (3) You know, if it's greater than one, that increases the risk of exacerbations, and that may be somehow reflecting those who have evidence for pulmonary hypertension, perhaps as a sign of increased of exacerbations. But those seem to be some of the most salient risk factors.

Dr. Christenson:

So, we talked about what are the risk factors, but what are the consequences of COPD exacerbations? And I feel like I'm setting you up for a question here, because I feel like these are very underrecognized by a lot of people, including pulmonologists that just the consequences of COPD exacerbations can be really broad, and really, really impactful. What do you think about that?

Dr. Balkissoon:

Absolutely. I mean, we know that COPD is the third leading cause of death, (1) and so a high mortality rate in this population is rather astounding. And that's all-cause mortality, again, going back to the multiple organ systems that can be affected by cigarette smoking. (1) And again, the people who develop COPD are really declaring themselves susceptible to many of the other ill effects that cigarette smoking can cause. We know that there is, of course, the increased risk of future exacerbations related to it. High hospital admissions and readmissions, as a result, obviously have significant impacts on quality of life. (1) And, we'll ask a patient, 'Well, how are you doing?' and they'll say that they're fine. But if that's all you ask them to get a sense of their quality of life, you know that you're really doing a poor job, and so you can use these different objective measures, like the MMRC, the Modified [Medical] Research Council, a codified type of scale, or the COPD assessment test. (1) But I don't know what you think, but I think often a more detailed type of interview is necessary to get a good sense of how it's impacting their lives. Also, we know that there this association with having these frequent exacerbations and a more rapid loss of lung function over time. (1) We know that there's increased airway inflammation, and increased risk of future exacerbations, as I said, high hospital admissions as well as a significant increase in healthcare cost. (1)

Dr. Christenson:

So one last question. We know that there are severe consequences to COPD exacerbations, and I think the big one that we are really concerned about is mortality. I guess some patients are really more concerned about quality of life and I think that's very important that we need to really be thinking about that for our patients and being on the same page about what the patient cares about. But let's discuss a little bit. How do COPD exacerbations contribute to mortality?

Dr. Balkissoon:

Well, I think they contribute to mortality on three different fronts. Obviously, people who have severe COPD and marked air fill limitation, and emphysema, develop problems with significant gas exchange abnormalities, pulmonary hypertension severe respiratory failure, and will succumb to that disease. (1) And that's certainly a substantial number of the patients who die from COPD. But if you look at all-cause mortality, maybe 25 percent or more of the patients who have COPD, who actually have a cardiovascular-related type of death. (5) But it is very sobering, the statistics. There was one study that showed recently that they took a cohort of patients who was hospitalized for COPD exacerbation. (6) They followed that cohort, and they found that up to 50 percent of them were dead at 3.6 years

from the time of that exacerbation. Now, that's all-cause mortality. I think we have to keep on emphasizing that. But having these severe exacerbations portends poor prognosis, (1) and it's a time for us to really try to make sure we're doing everything we can, to make patients aware of the severity of the disease, and what their prognosis is, unless they stop smoking, start taking their medicines, you know, pay attention to all their health problems, and take better care of themselves.

Dr. Christenson:

Try not to fall through the cracks, and that's kind of, on us to make sure that we're educating people. So, I think that's a really important point. Well, this was a great conversation, Ron. Do you have any final points on COPD exacerbations that you'd like to summarize?

Dr. Balkissoon:

I think what we've really just tried to emphasize, that exacerbations have significant impact, not only for the individual, but for their families and society at large, with dire consequences. (1) And that we need to recognize that the person who starts exacerbating could be on a slippery slope, (1) and we need to be making them aware of how to identify those exacerbations, and we need to be aware of the importance of treating these and trying to prevent further exacerbations at the earliest point possible. How about you?

Dr. Christenson:

I don't know that I could have said that any better. I think that you're right. Just really working with our patients to really try to identify these events, and really thinking about these patients holistically and how we can manage them better to prevent the events is just so important. But I think that you already summarized that quite nicely. With those final thoughts I really want to thank Dr. Balkissoon for his time and for such a great discussion on COPD exacerbations.

Dr. Balkissoon:

Well thanks so much, Dr. Christenson. It's been really a pleasure. I hope we get to do it again, and I hope you've enjoyed our discussion, so thank you for joining us.

Dr. Christenson:

Absolutely. Thanks so much.

Announcer:

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