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ReachMD
www.reachmd.com
info@reachmd.com
(866) 423-7849

Risk Stratification Refinements with inclusion of Hemodynamic variables at follow up in patients with PH

Announcer:
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Dr. Channick:
Given the complexity of pulmonary hypertension, it's imperative that clinicians are able to use all the therapeutic options in their arsenal, in addition to the standard of care. Join me today as I explore how to optimize PH treatment based on patient type.

This is CME on ReachMD, and I'm Dr. Rich Channick.

Those of us who take care of, really, thousands of patients with pulmonary arterial hypertension and pulmonary hypertension know that the patients are all quite different. It's an amazingly heterogeneous population, and that creates a challenge. And really, to be honest, requires expertise and experience to really understand what are these patient types, and how might we individualize therapy for the different patient types?

I can tell you that, unequivocally, that you try one patient on a certain medication and they don't do well, and then a patient that may look somewhat similar, trying the same medication, they have an amazing response. So this is part of the problem. But there are ways, though, that we can look at the patient types and help kind of tailor how we're going to treat those patients.

So the first case I'm going to talk about is a patient where they have what we might call some comorbidities. And so we have an older patient, let's say, 72 years old, who comes in with pulmonary hypertension symptoms, short of breath, gets eventually referred to a specialist. And we do know that, unfortunately, we still have a couple-year delay on average in diagnosis, so that's something we need to work on still with these delays in diagnosis. But the patient gets a workup and is found to have pulmonary arterial hypertension. So they don't have other causes of pulmonary hypertension, we excluded significant pulmonary venous hypertension or left heart disease, lung disease, thromboembolic disease, and there's no other reason. So we diagnosed this patient with Group 1 pulmonary arterial hypertension, 72 years old.

They have a little bit of diabetes, but it's pretty well controlled. They have some sleep apnea because they're moderately obese, but that's being treated adequately, and maybe some blood pressure problems. So pretty bread-and-butter kind of stuff, right, in a patient who does, in fact, have significant pulmonary arterial hypertension.

I can just tell you that their hemodynamics are quite significant. So their pulmonary vascular resistance is 10 Wood units, about 3 times higher than normal. They have a normal wedge pressure. So this is true precapillary PH. What do we do with a patient like that? How do we start on treatment?

So let's put another patient right next to him. He's 35 years old and has exactly the same hemodynamics, but is 35 years old, thin, no risk factors for other heart or lung disease. I can tell you that these patients may not respond the same way to medication that we start for pulmonary arterial hypertension. On paper, they look very similar, but the older patient with some cardiac comorbidities may have a little more difficult time with medication. And that's why, in fact, this is a very hot topic for discussion is, should we be more cautious with that patient and, let's say, only start 1 therapy versus starting 2 therapies? That's an argument or discussion that we're having. I can tell

you that, in fact, there are some therapies that you start these older patients on and they get more edema, they get, you know, they feel worse, not better. Whereas in that 30-year-old, we feel very comfortable starting standard, let's say, 2-drug up-front therapy. That's not to say the older patient shouldn't get maximal therapy, it's just we may need to be more cautious. Like I say, these are older patients; they have some other issues. And then as we increase the medications in those patients, we also have to be more cautious. So that would be one example where really understanding the overall phenotype you're dealing with in a patient with PAH can be very useful for making initial treatment decisions and then for sort of optimizing treatment.

For those just tuning in, you're listening to CME on ReachMD. I'm Dr. Rich Channick, and I'm reviewing the optimization of treatment for pulmonary hypertension based on patient type.

Second case, a patient with connective tissue disease. So connective tissue disease is obviously a widespread condition. We see patients with things like scleroderma, rheumatoid arthritis, mixed connective tissue disease. And these patients are complicated because they have lots of other problems; it's not just pulmonary. They have musculoskeletal problems that may limit their ability to walk or ambulate. And so we look at a patient like that, and some of the parameters we're going to measure to make treatment decisions may not give us the same information, 6-minute walk test, for instance. So we take a patient like that, we diagnose them with pulmonary arterial hypertension. Let's say we're starting initial therapy, initial combination therapy, pretty standard.

And so we're thinking about what are we going to measure in follow-up in that patient? Well, functional class, is that going to be useful? It might be, but what if this patient is pretty nonfunctional due to their severe arthritis or general fatigue. The 6-minute walk test is only really useful if it's limited by the underlying cardiopulmonary disease. So suddenly you realize that our methods for following patients and optimizing their treatment has to be tailored to the individual patient. So a patient like that, we might really need more objective parameters, like echocardiography, looking at the right ventricular function, even right heart catheterization, trying to determine do they have a hemodynamic response? Is it adequate? And in a separate session, I talked about the emergence of follow-up right heart catheterization as an important test still for intermediate-risk patients, looking at stroke volume, mixed venous oxygen saturation. So those are things that we may need to take into account for, let's say, the patient where there are other things that are limiting what they're able to do.

In addition, in the scleroderma patient, for instance, they can develop heart issues. So the left side of the heart can be restricted. So as we give PAH therapy, for instance, it may be really important to watch for development of more left-sided problems like pulmonary edema or worsening symptoms. And so that's another reason why, for instance, follow-up catheterization, looking at wedge pressure, hemodynamics, may be very important for that particular patient population.

I think the bigger theme here is that if a patient has sort of multisystem disease and other issues, it's going to affect our treatment decisions for the pulmonary arterial hypertension and how we follow those patients. You know, patients, some of the side effects of the medications, like gastroesophageal reflux, peripheral edema, those things may affect certain patients disproportionately. Again, our scleroderma population has a lot of esophageal dysfunction, so giving a drug that's going to worsen reflux, we've got to be really cautious.

The third kind of patient, and unfortunately, this is something I think we all see a lot more of in pulmonary arterial hypertension, maybe one of the most common emerging causes of pulmonary arterial hypertension is methamphetamine use. And I would say, conservatively – I'm in Southern California, but I think it's everywhere in the country, so you all see it, I'm sure – maybe a third of my patients with pulmonary arterial hypertension have a history of methamphetamine use. It's not always what you see with the hard-core, regular users of methamphetamine, it could be even occasional users, but it's something that we need to focus on because it's rampant in our pulmonary hypertension population. So I just wanted to say a few words about that specific type and how it may affect treatment.

So typically, what my approach is, is when I have a patient with pulmonary arterial hypertension that's I suspect is due to methamphetamine use, obviously, in addition to counseling patients about avoiding methamphetamines and getting them help to get off of these drugs, we have to take sort of a graduated approach to the treatment of these patients. We do think that if the patient can get off methamphetamine, the pulmonary arterial hypertension may actually improve to some degree, although not always as much as we'd like it to.

Secondly, we have to be able to be able to see that these patients are going to get follow-up. One of the things I do to sort of individualize is to make sure the patient is going to have appropriate follow-up and has appropriate support. Because certainly, if we start therapy and the patient is lost to follow-up and never gets their treatment renewed, let's say, that's not helping the patient at all.

We do like to avoid or delay parenteral therapies in these patients as much as we can. Again, it's a very dynamic thing, and depending on how the patient is doing with their drug use and rehab and counseling, you know, will affect our treatment. But I would say, in general, individualizing for that patient type, who – and it's not just methamphetamine, who has other psychosocial reasons,

environmental reasons why they may have difficulty with therapies. Because don't forget, these therapies, you know, are not easy. I mean, they come from specialty pharmacies. They require teaching, some of them. They require close follow-up. And so this is not simply giving a pill and sending a patient on their way. And so it's really, I think, an emerging problem, again, really underscored by how much of this illicit drug use we're seeing with methamphetamine. And I think we do need to develop better ways to interplay, interact with these patients and try to optimize them.

And so I would just basically, again, underscore with all these cases that you can't look at a treatment algorithm and say this is what we do to our patients with pulmonary arterial hypertension. We just go down the list. Start this drug. Start that drug. Add this drug. There's so many different variations and subtle and not so subtle individualities that really, again, require experience, require expertise, and require a lot of thought.

Thank you.

Announcer:
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