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Time needed to complete: 1h 55m

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Screening for PAH Using Echo (DETECT and SSc-PAH)

Announcer:

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Dr. McLaughlin:

Hello, and welcome to this series on echo. Today, I'm going to talk about screening for PAH in the scleroderma spectrum of diseases using echo. I'm Val McLaughlin from the University of Michigan. Glad you can join me today.

First, I really want to emphasize the importance of screening for pulmonary arterial hypertension in some of the patient populations that we know are at high risk for this complication. And scleroderma is one of those groups of patients. And the recommendations for screening and detection have evolved over the years. And I really want to highlight the importance of the statement made at the most recent guidelines, the 2022 ESC/ERS guidelines that acknowledged that annual screening in patients with the scleroderma spectrum of diseases is important. And it even gave a recommendation to use the DETECT algorithm in asymptomatic patients with scleroderma in a diffusing capacity of less than 60%.

So I think there's good evidence behind these screening programs. And the DETECT study is one of the most comprehensive studies that was done. And it really looked at a group of patients with scleroderma, DL less than 60%. So it was a somewhat enriched population. And it did all sorts of tests from PFTs and hall walks and all of the antibodies and biomarkers and echo and EKG, it really did all of these things. And it pulled out the factors that were most predictive of having pulmonary hypertension on right heart catheterization, and it developed a two-step decision tree.

And the first step is based on the non-echo parameters, really with the vision that these are things that a rheumatologist, who is the one generally seeing these patients, can do in their office and determine whether or not an echo is even indicated. So the most predictive non-echo parameters were FVC/DL ratio, the presence of telangiectasias, the presence of an anti-centromere antibody, the NT-proBNP, the serum urate, and having right axis deviation on an EKG. And there's an app for this and you can put those data into the app, and it tells you whether or not there at enough risk to proceed with an echo. And then you do the echo. And the most important factors on echo were right atrial area and TR velocity. And then you put that information in and you get the step 2 score. And that will tell you whether or not the patient is at high enough risk for pulmonary arterial hypertension that one should proceed with the right heart catheterization.

So let's take that through a case. This is a patient who is 72. She has a long history of scleroderma, anti-centromere antibody positive, she has Raynaud's and recurrent digital ulcers. And she's had a little bit of a decline in her DLCO over the years and a little bit of an increase in her estimated RVSP on echo, although her RV function is still normal. So we also measured other parameters including her NT-proBNP and her serum uric acid. Notably, she has just minimal ILD on her CT scan.

And then we put her information into the DETECT algorithm, the step 1 with those non-echo parameters, and that gave a score suggesting that the patient needed an echocardiogram. And then you do the echocardiogram. And those two other important parameters were TR velocity and right atrial area, and you put that in for this patient. And it says that she needs a right heart

catheterization. And then we proceeded with the right heart catheterization, and that confirmed the diagnosis of pulmonary arterial hypertension.

And I think this is really critical. It's an opportunity to find patients earlier in the course of the disease. You can see her main pulmonary artery pressure was only 28 and her PVR was 3.6. So it's an opportunity to get patients at an earlier stage, and this patient was treated with medical therapy.

So there are a few opportunities to really broadly screen for pulmonary arterial hypertension, but the scleroderma patient population is one of sufficient risk that it makes sense to use a screening tool. And the DETECT is a screening tool that use both echo and non-echo parameters that's very easy to use. And in my practice, it's helped us find a lot more scleroderma patients earlier in the course of disease.

Well, thank you for joining me today. I hope you enjoyed learning a little bit more about screening for PAH in the scleroderma patients using the DETECT protocol and the use of echo in that particular algorithm. Thank you

Announcer:

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