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Using Echocardiography To Get a Handle on Heart Structure and Function in PH

Announcer:

Welcome to CME on ReachMD. This episode is part of our MinuteCME curriculum and is titled "Using Echocardiography To Get a Handle on Heart Structure and Function in PH".

Prior to beginning the activity, please be sure to review the faculty and commercial support disclosure statements as well as the learning objectives.

Dr. Preston:

"Using Echocardiography To Get a Handle on Heart Structure and Function in PH." Echocardiogram: The TR jet gives only an estimate of PA pressures and it's reliable when the images of the echocardiogram are well performed. The quality of the TR jet and the expertise of echocardiography reader matters. Take a look at a good TR jet that can be measured versus a moderate TR jet that doesn't have a nice peak. And a poor TR jet where you actually cannot even estimate the PA pressure. And that's why we call it an estimation of PA pressure because it can vary depending on the window and on the skills of the echocardiographer but the ECHO is not all about pressures.

Again, the pressures of the least accurate parameter that the ECHO can give you, the function and the size of the chambers, I think, is the most important and this nice example shows the four chamber view where the atria are upside down, they're down, and then the ventricles are up, and it can show a normal versus abnormal picture. Now, there are differences between precapillary versus post capillary echocardiogram. In post capillary echocardiogram, you can see abnormalities in the left ventricle. And even if you don't see the left ventricle, most commonly the left atrium size is abnormal. So if you have a very enlarged left atrium, but also abnormalities on the right that suggests that probably the PH is due to left heart disease of group two. The other parameters that may be used on the parasternal short axis view is the eccentricity index. And it's the change in diameter between the long axis and the short axis. You can see the diagram, it's the ratio. So that tells you that the interventricular septum is displaced towards the right. And then in the four-chamber view, like we showed before, the RV/LV ratio over 1, or the right atria over 18 centimeters square suggests the presence of pulmonary hypertension.

The tissue doppler assessments are also important because they give you an idea of the right ventricular function. They're very simple and reproducible, and it can pick up regional wall abnormalities, or global wall function, or motion. The fractional area of change is one relatively newer parameter that measures how much it changes between systole and diastole of the right ventricle. And indicates, as it says, the right ventricular function. There is a high interobserver variability, unfortunately, but it may be a good test to follow up within same patient. And if you have an echocardiography lab that's dedicated for PH research, or they have experience in PH.

Announcer:

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