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Released: 06/30/2022

Valid until: 06/30/2023

Time needed to complete: 1h 06m

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Dyspnea: Many Possible Causes, Always To Be Taken Seriously

Announcer:

Welcome to CME on ReachMD. This episode is part of our MinuteCME curriculum and is titled "Dyspnea: Many Possible Causes, Always To Be Taken Seriously".

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Dr. Preston:

Hello. My name is Ioana Preston, and I'm Associate Professor of Medicine at Tufts University School of Medicine in Boston, and I direct the Pulmonary Hypertension Center at Tufts Medical Center. Thank you for joining us today. Our topic for today is Sleuthing Unexplained Dyspnea: Diagnostic Tools. So there are many causes of dyspnea, many possibilities, so always this symptom needs to be taken seriously.

Now, if we visit the causes of dyspnea. Let's look. Acute dyspnea could be associated with almost any medical condition, it seems. Especially in conditions that affect the heart or the lungs, but not always. We know about asthma lung infections, allergic reactions, collapsed lung, and so on. As well as heart failure, pulmonary edema, and pulmonary hypertension. Of course, we shouldn't forget systemic disorders, such as anemia or hypo and hyperthyroidism. But if you look at this table, the last conditions that cause dyspnea that are highlighted in blue, can be associated with various forms of pulmonary hypertension. So pulmonary hypertension is in fact a common cause of unexplained dyspnea.

So let's see, can we measure how bad it is? Breathlessness is a predominant symptom among patients with cardiopulmonary disease, and has been shown to have a strong correlation with anxiety and depression, with health related quality of life, and causes activity limitations, and associated with increased mortality. There is a score that semi quantifies dyspnea. It's called Dyspnea 12 or D 12. It's a short instrument that assesses the breathlessness and it's severity, and it taps its physical and emotional components. The D 12 has acceptable reliability and validity for using patients with PAH, and it correlates with WHO functional class, as it is shown in the graph below. So on the right hand side of the slide, the 12 questions of the D 12 questionnaire are highlighted.

One of the key points that I would like you to take is always suspect it could be pulmonary hypertension, but never assume it is pulmonary hypertension. So this has to be investigated thoroughly. So you can have pulmonary artery systolic pressure by Doppler on the echo estimated at 51 millimeters of mercury, or PA systolic pressure and other components can be measured by the right heart catheterization, and let's assume it was found to be 68 millimeters of mercury. So if we have a systolic pressure measured invasively or estimated noninvasively, what's the type of pulmonary hypertension? So now we have to think into, and go into the differential diagnosis. Is it a heart condition, such as left heart failure, valvular disease, and those conditions are associated with high left sided feeling pressures or wedge pressure, or is it a pulmonary condition, such as advanced COPD, sleep apnea, pulmonary embolism, or it is a precapillary pulmonary vascular disease or PAH group one? So the point is, if you have only the systolic pressures estimated by echo, first of all, they may not be accurate. And second, you cannot find what type of pulmonary hypertension you are dealing with. So PAH has a very broad differential diagnosis. Never assume it's always PAH if you find an abnormal echo normal echo.

For example, when the patient has an underlying disease, you expect them to be at risk for PAH. You must test for it. So patients with various connective tissue disorders, especially systemic sclerosis, but also lupus, and other connective tissue disorders, such as mixed connective tissue disease, or a combination of those, they are at risk for PAH. In addition, patients with advanced lung disease, such as pulmonary fibrosis, or sleep apnea, or a combination of those are at risk for pulmonary hypertension. That is not group one, but is group three. In addition, patients who have had pulmonary embolism in the past, and not only those with a prior PE, those who are at risk for chronic thrombotic disease, they have pulmonary hypertension group four, and other are the disorders such as schistosoma or sarcoidosis, are known to be associated with pulmonary hypertension, and these are part of group five of pulmonary hypertension.

Announcer:

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