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Case Study: CTEPH

Announcer:

Welcome to CME on ReachMD. This episode is part of our MinuteCE curriculum.

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Dr. Troy:

So we're going to go through the first part of this case fairly quickly. This was a transfer from an outside hospital received. This is a 56-year-old woman who had a history of recurrent arterial and venous thromboses. About 7 years prior to our meeting her, she had had a provoked, very large PE in the setting of air travel and was subsequently discharged with an IVC filter, apixaban, improved fairly significantly. And then 2 months prior to our meeting her, she had a recurrence in a very similar fashion. She was discharged this time on 2 liters of oxygen in addition to rivaroxaban, and then was referred to our institution due to persistent, fairly significant dyspnea on exertion and oxygen requirements.

When we met her, her vitals showed tachycardia, a little bit of hypotension, very elevated BNP, a little elevated troponin, things that are all consistent with kind of right-sided plus or minus left-sided heart failure. Everyone can see here that she has kind of this persistent pulmonary embolus on both sides, which has some signs of some chronicity with some eccentric thrombus. She had an echo which showed biventricular dysfunction with very dramatic-appearing RV, as you can see here. And so she underwent a right heart cath, which showed a very elevated PVR in addition to some left-sided heart disease, with a wedge of around 20.

During our hospital stay, she was diuresed aggressively. We got her feeling much better. She was actually discharged on room air with a plan to potentially consider an endarterectomy as an outpatient for this presumably chronic clot.

As an outpatient, she was started on tadalafil. She underwent treatment with goal-directed therapy for her left-sided heart disease. And she had a very significant improvement with near normalization of her RV function and improvement in her RV pressures.

So we talked about her at our CTEPH conference, and we got some repeat imaging. Here's her CT, which shows a resolution of that large - those large central clots but persistence of some, kind of chronic-appearing changes, particularly in the left upper and the right lower. Here's a VQ scan which shows very large areas of mismatched perfusion defects in both lungs, I won't belabor that too much. And so she underwent PA gram bilaterally. And you can see here that on both sides, somewhat more dramatically on the right, but also in the left upper consistent with the CT, she has very large areas of hypoperfusion.

So this patient underwent a level 3 CPET which showed fairly normal hemodynamics at rest, but a significant increase in her pulmonary arterial pressure with exercise, in addition to some hypoxia. She also met the criteria by her slope, as Dr. Channick mentioned earlier. So she underwent a PTE, and she had an excellent response. There's her before and after VQ scans, and she's now able to walk more than 5 miles a day. She's able to go on flat surfaces and inclines, and only experiences very, very mild shortness of breath with kind of more significant exertion.

This is a great case that kind of introduces the concept of some of the nuances that we can see with CTEPH and CTED. And Dr. Jasuja,

one of my mentors, will now kind of review that and go a little bit more into those nuances.

Thank you.

Announcer:

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