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Applying Best Practices in the Diagnosis of PSVT

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Jennifer Carlquist, PA-C:

Welcome to this educational activity from GLC. I'm Jen Carlquist, and here with me today is Brian Rose. Our discussion will focus on accurate diagnosis of paroxysmal supraventricular tachycardia, or PSVT.

We're going to start today with a case. We have a 40-year-old male who was playing baseball in the very hot sun and only had a very caffeinated beverage in the morning for breakfast. He didn't drink any water or hydrate, and he presented to the emergency department with a heart rate of 130 and a complaint of palpitations and dizziness.

So, Brian, what are your thoughts on this case? And how would you assess this patient?

Brian Rose, PA-C:

I feel like this is a case that we see far too often that gets referred to us in the outpatient clinic. So this is a young man who it sounds like doesn't have a lot of other comorbid conditions that had a very abrupt onset of his symptoms.

So first and foremost, the 12-lead EKG and his baseline laboratory studies are going to be key. That's what's going to tell you everything. We're here talking about PSVT, so I'm just going to take a gander that that's probably what this gentleman's going to have. As long as he is hemodynamically stable, we can go through the entire algorithm of how to treat him. Perhaps someone at the baseball field or EMS before he arrived, or even in the ED before cardiology is called, might have tried a vagal maneuver. We know that in less than 10% of cases, that is actually going to abort that rhythm. He very well may get adenosine and convert then. Then sometimes we can get a little bit fooled, and these patients can get adenosine, and it can slow it down and show us an underlying rhythm like atrial flutter.

So it will absolutely be key that we identify the correct rhythm because that will get us from step 1, his acute treatment, to step 2, what is going to be our long-term plan for this gentleman.

Jennifer Carlquist, PA-C:

Yeah, I think that's a great strategy, Brian. And I think that the trick here is that a lot of practitioners might just think he's dehydrated because he was in the sun and he only had a caffeinated beverage to hydrate him. And so, really, just narrowing down on, again, does that rhythm change? Is there beat-to-beat variability or not? That's often a clue, and so we don't want to get trapped by that.

And so I think the other thing is, like you mentioned, are they hemodynamically stable? And do we have some time to think about our treatment options?

So ultimately, Brian, how would you determine the treatment for him?

Brian Rose, PA-C:

So, in this gentleman, let's say we were able to convert him. He did have SVT for our sake of conversation, so this gentleman might have gotten adenosine to convert him. He's now in sinus rhythm.

So this is definitely, if you or I were getting called on a Saturday about making sure this patient is seen readily in clinic, I think it would be more than acceptable to send him out on an AV nodal blocking agent, whether it be taken on daily or pill in a pocket. We could definitely get him set up with a cardiac monitor to see if he has any recurrence of his arrhythmia. And then we'll start getting into the conversation about long-term management like ablation, and do we want to give him medications like etipamil, that if he were to have another acute episode, that that could abort those symptoms.

Jennifer Carlquist, PA-C:

Yeah, I really like that strategy. And the one thing I consistently see missed when these patients are referred to us, and that's not gotten in the ER, is getting the appropriate labs, including a TSH and free T4, because sometimes that can drive the train, so to speak, as well. So we want to make sure we capture all the necessary data so that we can make the best decisions when we see them.

So ultimately, to wrap up, this was a great discussion, Brian. Thank you for sharing your tips and tricks and pearls. And I'm really excited about the future and the landscape that's changing in how we treat PSVT. Thank you, guys, for listening.

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