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### Act Fast: A Case Study on Post-Exposure Influenza Prophylaxis

Announcer:

Welcome to CME on ReachMD. This activity, entitled “Act Fast: A Case Study on Post-Exposure Influenza Prophylaxis” is provided by Prova Education.

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Dr. Donnelly:

This is CME on ReachMD, and I'm Dr. Cassandra Donnelly. Today, I'm talking to Dr. Charles Vega, and we'll be discussing post-exposure influenza prophylaxis and examining a clinical case. Stick with us to gain a better understanding of how to match the right patient with the right antiviral treatment.

Dr. Vega, welcome to the show.

Dr. Vega:

Well, thank you very much, Dr. Donnelly, I look forward to this.

Dr. Donnelly:

Dr. Vega, oseltamivir, zanamivir, and baloxavir marboxil are now all approved for use as post-exposure influenza prophylaxis. Before we get into our case, can you provide the rationale and the range of clinical data supporting the value of including post-exposure influenza prophylaxis in one's clinical practice?

Dr. Vega:

Yeah and post-exposure prophylaxis is really important when it comes to the overall management of influenza. It's a way we can protect folks, particularly those who are at high risk of complications. But I actually think it's worthwhile to step back for a second and especially as we're recording this right now, in summer of 2021, this is a great time, and I'm actively in my practice planning for vaccinations. So vaccination is the number one way we can prevent influenza and it's our greatest tool that we have in addressing influenza as a public health issue in the United States, so let's get those vaccinations on board. Unfortunately, the vaccines are far from 100% effective against influenza. Some people, even if they get vaccinated, will get sick, and then many people who are unvaccinated. Treating those patients can reduce viral load and reduce household transmission of influenza. And that may be an important consideration.

To return to your question, post-exposure prophylaxis really is quite effective. As you mentioned, there are 3 agents available. So we have oseltamivir and zanamivir, those are neuraminidase inhibitors. Now, those are taken daily, once daily – it's different from active treatments – once-daily dosing for 7 days. And then we have baloxavir, which was much more recently approved for post-exposure prophylaxis, just in November of 2020 it was approved. And that's a onetime dose, has a really long half-life. So there's a convenience factor there, as well.

And what will be really interesting to see is whether a drug like baloxavir marboxil, which reduces viral load faster than established drugs like oseltamivir, if that makes a difference in household contacts getting influenza.

But in terms of efficacy, they work. Clinical study to clinical study for the oseltamivir and zanamivir, 65% to 85% effective in the household transmission of influenza. And there's the effect of even if patients might get influenza while they're on one of these agents as prophylaxis, the influenza's not going to be as strong, so less likely to have complications. Baloxavir has one study that compared patients who were exposed to household contacts with influenza and randomized either placebo or baloxavir as a onetime dose. And in that study, baloxavir is 86% effective in the household transmission. So good options all around. And we don't use enough post-exposure prophylaxis, so it really is something that I think is effective. It's safe and well tolerated, and we should be thinking about using it more in clinical practice.

Dr. Donnelly:

That was a great overview of the rationale and clinical data supporting post-exposure influenza prophylaxis. Now, let's look at our case scenario.

So Kate, an insurance agent, is a 42-year-old and in your office with a likely influenza diagnosis. On probing, you discover that her husband, John, is home briefly before his next trip as a cross-country truck driver. He's 45 years old and has asthma. Their 18-year-old son, who is preparing to leave in two days for his winter college semester, is also in the household, as is Kate's 64-year-old mother who has type 2 diabetes with an A1c of 7.9 and high blood pressure of 165/110, for which she takes daily medication. What would you suggest to Kate regarding post-exposure influenza prophylaxis for her household?

Dr. Vega:

All right, well, that's a great case. Kate has a lot going on. So first of all, for anyone with suspected influenza, when influenza's circulating in the community, it's worth it to offer a treatment. So Kate can receive an anti-influenza drug; that's great. But second, you have John, her husband, and then you have her son and her mother. But the question is, have these family members been vaccinated? Because if they have, the imperative to initiate post-exposure prophylaxis is not that strong. So if they've been vaccinated at least two weeks prior – because you have to make sure that the vaccine has had time to work – and I don't see any sign of severe immune compromise, which would suggest the vaccine wouldn't be effective in these patients, then we don't necessarily need to initiate post-exposure prophylaxis for these individuals.

There are some other compelling things, though, going on. So first of all, patients who are at high risk of complications, they should be considered for post-exposure prophylaxis. So if her husband, who has asthma—ding, that's one high-risk condition—and then her mother, who doesn't qualify based on age, she's just 64, but she does have diabetes—ding, that's a qualifying condition. If they have not been vaccinated or very recently vaccinated, it's very reasonable to consider post-exposure prophylaxis for them. And again, your choices are baloxavir, oseltamivir. You would not give zanamivir to her husband because of his history of asthma.

And then there's a question of the son. Now, normally, I would say, no, I would not consider him for prophylaxis because he's 18, otherwise healthy. We're really focused on using prophylaxis to prevent complications of influenza. Being 18 and healthy is at low risk for complications of influenza, but he's going to college in 2 days. That's a tough one, and I would consider it more as a public health measure to protect not just himself, but his fellow travelers, wherever he's going back to college, and then he gets in a dorm. But we do know that influenza can spread through, let's say a college dormitory like wildfire. And so it'd be reasonable to consider for him, as well, on this case.

If they haven't been vaccinated, go ahead and vaccinate everybody. Now, will that help them with this particular case, as Kate has active influenza? No, it won't. But it'll protect them down the line.

Dr. Donnelly:

Understood.

For those just tuning in, you're listening to CME on ReachMD. I'm Dr. Cassandra Donnelly, and here with me today is Dr. Charles Vega. We're discussing anti-viral options for post-exposure influenza prophylaxis.

So now let's take a look at our case from another angle. Kate lives next door to her brother and his family, who are also your patients. In fact, she works with her brother at his insurance agency, and that's located on the ground floor of his house. In the past day, she's been in close contact with her brother, who's 37 years old, and he indicated he was running a fever and felt a little bit achy. His wife, Janis, age 34, is pregnant with their second child. Their first child, Susan, is 14 years old, and she also lives in the household with Janis's father. He is 61 years old, and he suffers from arthritis in his neck and he's taking daily NSAIDs, but otherwise, he's healthy. What would you do with that information?

Dr. Vega:

You know, the brother and his family are also my patients, so I feel like I can go ahead and reach out with treatment options for them. Kate has, you know, if she has very high suspicion for influenza and her brother is symptomatic, it'd be reasonable to treat him as an

active case, as well.

The main person to be concerned about in that household next door is his wife, who is pregnant in her second trimester. So we know that influenza has a higher risk of complications during pregnancy, higher risk of pneumonia for mothers, higher risk of preterm delivery, so there's risk for both mother and baby in this situation. And so I can feel better if she received her vaccine as recommended by CDC. But she would be a candidate for post-exposure prophylaxis, as well. Now, for her, I would say the choice is really oseltamivir. We know that oseltamivir is a preferred agent during pregnancy, and the reason is just because we have a ton of experience with it over 20 years in giving oseltamivir to pregnant women.

She might be concerned about taking a medication during pregnancy. This is something I think we've all seen, all familiar with, and so, of course, I'm going to do shared decision-making with her on that. If she really is resistant, then I can do that delayed prescription for oseltamivir, and that could be an effective way to manage her case, as well.

And that might be a reasonable course of action, that concept of using a delayed prescription for the 14-year-old and the 61-year-old. Now, 61, you think, gosh, maybe there's some risk of complications here, but if otherwise healthy with just arthritis, not a high-risk condition for complications of influenza. So CDC would say you do not have to prophylax either the healthy 14-year-old or a 61-year-old. The cutoff for complications that they list would be 65 years of age, and the folks 65 and over should be considered for prophylaxis.

Dr. Donnelly:

Thank you for that really information-packed answer.

So as you look back on this extended case that we've just discussed, is there anything you'd like to offer your colleagues regarding how to best incorporate post-exposure influenza prophylaxis into one's clinical practice?

Dr. Vega:

Well, I think it's great that we have different agents available, and they're prescribed differently for folks who really have a hard time continuing to take prescriptions even for 7 days. And honestly, I think a lot of patients in my experience don't take the full 7-day, CDC-recommended course of post-exposure prophylaxis. But you really want to take the full 7-day course. It's extremely important in high-risk settings, such as those assisted living facilities. So don't forget about that, as well.

But then you have baloxavir, which offers the onetime dosing. So for folks who have difficulty with adherence, that's nice to be able to take one dose and done, overall.

Dr. Donnelly:

So this has certainly been a fascinating conversation, but before we wrap up, Dr. Vega, do you have one take-home message that you want to share with our audience?

Dr. Vega:

Yeah, don't forget about post-exposure prophylaxis. This tends to be my, kind of, hand-on-the-door moment, like, hey, who do you live with again? It really can be quite effective and generally well tolerated.

Dr. Donnelly:

Thank you, so much.

In the urgent care setting, it's really important to educate patients. You really have a short window of time with the new sick patient in front of you. And as I can think about it, the most important thing is going to be to ask that patient about the people that they're living with when you think about post-exposure prophylaxis. And it's not always the first thing that's in the front of your mind because you're really looking at a patient that you've never seen before rather than an established patient who, let's say, you know, a family practice. But if I can give my colleagues one additional tip, it would be to kind of think beyond that patient that's right in front of you and really ask that question so you'll know how to really apply these points that Dr. Vega is bringing home about post-exposure prophylaxis to those family members that are at home.

Well, unfortunately, that's all the time we have today. So I want to thank our audience for listening in and thank you, Dr. Charles Vega, for joining me and for sharing all of your valuable insights. It was great speaking with you again today.

Dr. Vega:

Always a pleasure. Thank you.

Announcer:

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