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Severe Allergic Reactions: The Potential Detriments of Diphenhydramine

Announcer:

You're listening to *Clinician's Roundtable* on ReachMD. Today, we'll be discussing the lack of data supporting the use of diphenhydramine for allergic reactions with Dr. Douglas Jones. Dr. Jones is a board-certified allergist and immunologist with the Tanner Clinic and founder of Rocky Mountain Allergy both in Layton, Utah.

Dr. Jones:

So I wanted to look into diphenhydramine for allergic reactions because there seemed to be a lot of side effects surrounding it. It was an older medication, and there were a lot of newer medications on the market, and I thought, "Why are people still using this? And what's really the data behind it? Is there any reason?"

And so I actually did a survey of several doctors and just wanted to understand why they use diphenhydramine, and what I found out was a lot of it just had to do with habit, and it's what was available and tradition. And I asked them specifically if they knew any data behind it—did it work any better than newer antihistamines—and none of them really were aware of any of the data surrounding diphenhydramine. And I even asked them—I said, "So what differentiates when you use oral versus intramuscular versus IV diphenhydramine?" And again the answers were, they used it based off the severity of an allergic reaction. And I said, "Well, is there any data to support one version working better or quicker than another?" And they didn't know. And really, as we dived into the literature, we found there isn't great data to support its use, and it isn't really well studied. It's such an older drug, and it's just been used for so long it is habit; it is tradition; and there is a myth out there that it works quicker or better for more severe reactions.

And so we did a study of the data comparing diphenhydramine, and what we looked at was oral fexofenadine, and in our study, we wanted to look at what was the difference between oral diphenhydramine, intramuscular diphenhydramine, and oral fexofenadine. And we took two different versions of diphenhydramine because we wanted to see if we could dispel the myth that intramuscular worked quicker or better than oral, and was it any different than oral fexofenadine? And what we found in that study was there was no statistical significance in terms of how quickly oral versus intramuscular diphenhydramine and also oral fexofenadine worked. They worked relatively the same, just as quick, and suppressed people's allergic reactions very similarly. And so what we wanted to do was say, "Okay, well, let's really look at some of the potential side effects of diphenhydramine." Again, like I said, it's an older antihistamine, and it can cause some significant impairment in people.

The University of Iowa, several years ago, did a study where they basically made people in one group drunk, and then they made another group—gave them diphenhydramine. And so the group that had the above the legal limit of alcohol consumption actually did better in driving simulators than people that were given diphenhydramine, and so we know with diphenhydramine that it can cause some significant impairment.

And so with this we were able to dispel the myth that it works quicker, works better than say, fexofenadine or newer antihistamines, but the thing is the newer antihistamines, they don't have the side effects. They don't have those severe impairment side effects that diphenhydramine has. And so our thing is, "Why are we even using it?" And my question to a lot of people is, "Why is it even on the market?" There are so many, newer medications without the side effects that work just as quickly.

One of the main detriments is often people will use diphenhydramine in a severe allergic reaction, and that may be their drug of choice or their go-to drug, and that can be detrimental to someone; it can impair them. Like we've talked about, it can make them tired or sleepy. And the thing is, it doesn't work that quickly. When somebody has a severe allergic reaction, they can have a life-threatening situation within minutes, literally within minutes; five, 10 minutes of an exposure they can have a life-threatening situation. Diphenhydramine will not work that quickly, and it also does not have the benefits that, say, injectable epinephrine has on the body in a

severe allergic reaction. So giving diphenhydramine in a severe allergy really can cause more harm than doing good, can impair the patient, and it can also delay the the use of a lifesaving medicine, such as injectable epinephrine, which is the treatment of choice in severe allergic reactions.

So we want to educate, raise awareness on some of the potential detriments of diphenhydramine, and also, make it known that in severe allergic reactions, such as food allergy or with venoms, like bee allergies or wasp allergies, that really injectable epinephrine is that drug of choice and the thing that people need to have with them to prevent a catastrophic event.

Announcer:

That was Dr. Douglas Jones discussing why diphenhydramine should not be the answer for a patient have an allergic reaction. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!