Keys to Minimizing Hypoglycemia Risk: A Look at HbA1c Management in Patients with T2D

Announcer:
Welcome to Diabetes Discourse on ReachMD. On this episode, sponsored by Lilly, we're joined by Dr. Jason Ng, a Clinical Associate Professor of Medicine, Chairperson of the Diabetes Task Force, and Clinical Lead of the Diabetes Technology Medical Home Unit at the University of Pittsburgh. Dr. Ng is here to share some keys to minimizing hypoglycemia risk in HbA1c management for patients with type 2 diabetes. Let's hear from him now.

Dr. Ng:
So in Type 2 diabetics, the relationship between hemoglobin A1c or HbA1c and the risk of hypoglycemia is that in general, the higher the hemoglobin A1c level, the lower the risk of hypoglycemia. Generally, as endocrinologists, we aim for a target A1c of around 7%, which has been shown to reduce microvascular complications in Type 2 diabetics. But acknowledging that as we lower the A1c level, the relationship is that hypoglycemia may become more frequent because as the blood sugars are lowered, the A1c level is lowered, but also you run the risk of lowering their blood sugars too far. So depending upon individual treatment regimens, we have a broad range of medications, so some medications we use carry a higher risk of lowering the blood sugars too far, such as insulin, sulfonylureas, meglitinides, whereas others such as SGLT2 inhibitors, DPP-4 inhibitors, GLP-1 agonists, PVDs and, medications like that run less of a risk. So, we try to balance it.

So in Type 2 diabetic patients, we use a number of different strategies to try and reduce the risk of hypoglycemia with their diabetes treatment regimen while also trying to achieve their goal, hemoglobin A1c level. So a number of strategies include patient education and empowerment, one of the most important strategies. We find that in patients with Type 2 diabetes, when they become more comfortable with the use of their diabetes treatment regimen, they become more knowledgeable in the day-to-day, and what signs to look for severe low blood sugars and treat them appropriately before they become severe; we tend to find that they, in general, improve their blood sugar levels over time, and their A1c levels improve. Examples of this include using frequent blood glucose monitoring in patients who use more high-intensity therapy for their diabetes. This includes the therapies I talked about, including insulin, sulfonylureas, meglitinides – those therapies that cause insulin secretion as their primary mode of lowering blood sugars and puts patients at higher risk for hypoglycemia. So a strategy is to monitor their sugars routinely, to assess if their sugars are going up or going down, and appropriately treating those numbers. For example, if somebody is having lower blood sugar and he is about to have symptoms of tremors or sweats, they can quickly check their sugar level, assess their value, and if needed, treat appropriately with a certain amount of carbohydrates and afterward, a certain variety of carbohydrates and proteins or fats, in order to bring their sugar up, reduce their symptoms, but in a fashion so as not to make their sugar go so high that they then have to treat the high blood sugar which then puts them at risk for low blood sugar again.

Another example is patients who use insulin therapy because they have more advanced Type 2 diabetes. So if they know beforehand how much insulin they need for a certain meal, they can reduce the risk of hypoglycemia. If they know what the actions are of insulin therapy, and what are the risk factors to look for, they can kind of minimize those risk factors. For example, the amount of carbohydrates per meal, etcetera. So patient education and empowerment is a very fundamental strategy for reducing the risk of hypoglycemia in Type 2 diabetes.

So the individualized treatments goals include assessing the whole treatment plan for the patient, so for example, an elderly, 85-year-old patient may not need an A1c treatment goal of 7% because their long-term risk for complications is not as high as a patient who's in their 20's or 30's, in which we try to reduce risk of complications in the future. So their A1c treatment goal may be liberalized to a higher number to reduce the risk of low blood sugar.

The other strategy that we use is ongoing professional guidance and support. The reason being, we find that once patients are more comfortable with their diabetes treatment regimen and their day-to-day use, they generally reduce the frequency of hypoglycemia, and part of that process is us getting them to the point where they are comfortable. So the ongoing professional guidance and support is important on our part, to make sure that they're comfortable with what they're doing, and therefore they know the signs of what to look for reducing the risk of hypoglycemia and especially severe hypoglycemia in the future, which the whole coronation allows them to do the best they can with their Type 2 diabetes sugar control and reaching their target.

Announcer:

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