Understanding the Connection Between Diabetes and Seizure Risk

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Diabetic Seizures: An Overview

As people with diabetes, we really do not need yet another symptom to worry about. Unfortunately, we are all vulnerable to diabetic seizures. In this article, we cover the basics of how to identify a seizure, why they happen and how you can prevent or treat them.

What Is a Seizure?

A seizure is an unusual surge of electricity that over-excites the brain's nerve cells. Seizures are a symptom, not a disease. People who experience chronic seizures are often diagnosed with epilepsy, but seizures can be triggered by a wide range of factors.

The brain is the control center for just about everything we do. It makes sense then that a seizure can come in many different forms. The symptoms a person experiences depend on the area of the brain that is affected:

- Blurred vision
- A feeling of déjà vu
- Unusual tastes or smells
- Nausea
- Loss of bowel or bladder control
- Hallucinations
- Unusual vocalizations
- Unusual language that might make no sense to others
- Slurring
- Confusion
- Sweating and elevated heart rate
- Muscle stiffness and convulsions
- Losing consciousness
- Falling to the floor
- A daydream like state

What Causes Diabetic Seizures?

Research suggests that people with diabetes are nearly three times more likely to have epilepsy. Why are we at risk? Researchers are hard at work trying to learn more about the link between diabetes and seizures. We do not yet fully understand the link. Nonetheless, some theories have been suggested.

Blood Sugar Fluctuations

Brain nerve cells require a huge amount of energy in order to work their magic. Where do they get this energy?

Mainly from glucose in the blood. Due to this, it makes sense that if our brains are receiving too little or too much glucose (due to diabetes blood sugar fluctuations), our nervous system will be affected.

Hypoglycemia

There has been a lot of research exploring how low blood sugar (or hypoglycemia) can trigger seizures. If we are able to recognize and treat our lows early, the risk of experiencing a seizure is minimal. However, if the hypoglycemia goes untreated, this can lead to diabetic seizures and even a coma. For this reason, diabetic seizures are considered a medical emergency.

Hyperglycemia

What about high blood sugars (or hyperglycemia)? The conclusion as to whether or not high blood sugar can cause seizures is mixed. While some professionals have argued that extreme highs can cause this excess activity in the brain, others have said that having hyperglycemia can to some extent protect the brain from seizing, due to a process called ketoacidosis. Ultimately, high blood sugar can lead to health difficulties apart from seizures and should therefore be avoided.

Nerve Inflammation

We know that people with diabetes often develop seizures a few years after developing diabetes. This has led many to assume that diabetes causes seizures, but this is not necessarily the case.

Researchers believe there might be an underlying autoimmune and inflammatory process that explains both diabetes and epilepsy. So, rather than diabetes causing the seizures, the idea is that there is a common underlying disease process, which leads to both diabetes and seizures. At this point, however, we do not fully understand the mechanisms involved and more research is needed.

How to Prevent Seizures

The best way to lower your risk of having diabetic seizures is to manage your blood sugars to the best of your abilities. In particular, we want to avoid situations that might lead to **sudden** and **extreme** drops in blood sugar:

- Skipping meals and going for long periods without eating
- Using too much insulin or diabetes medication
- Long and intense bouts of physical exercise
- Alcohol use, as this can cause a blood sugar to drop several hours later, usually when a person is asleep and unable to recognize the symptoms in time

What Else Can You Do to Minimize Your Risk of Seizures?

Use Diabetic Technology

One of the best things to do is to take advantage of what technology has to offer. Continuous glucose monitoring (CGM) devices have built-in alarms that automatically alert a person when their sugars are off.

Avoid Stress

In people who are predisposed, stress can trigger seizures. Stress also negatively affects blood glucose control. Therefore, it is worth exploring stress-management techniques, including meditation, psychical exercise and yoga. If you struggle with anxiety, consider consulting with a diabetes-specialized mental health professional.

Always Keep Glucose on You

Keep glucose tablets on hand so that you can treat your low quickly and easily. Always keep your Glucagon close

by. Glucagon is a hormone that is injected in order to lift a patient out of a severe low. This can literally make the difference between life and death. Oh, and make sure it has not expired.

Take Prescription Medication

There are certain prescription medications that can be used to reduce the likelihood of seizures in people with epilepsy, so be sure to let your doctor know if you are experiencing them.

Make Your Friends and Family Aware

Ensure that your friends and loved ones are able to spot signs of hypoglycemia and that they know what to do in the case of a diabetic emergency.

What Should You Do if Someone Is Experiencing a Seizure?

The first thing to do is to secure the person by lying them on their side and clearing the space of any sharp or potentially harmful objects. If they are unconscious, administer Glucagon as soon as possible. Alternatively, place sugar water on their gums. Then, call an ambulance immediately. If possible, try to time the seizure. This can provide valuable information to the medical team.

Remember that diabetic seizures constitute a medical emergency, so the patient needs to see a medical professional as soon as possible.

Your Brain Is Your Biggest Asset: Protect It!

At the end of the day, people with diabetes have a lot on their plates. It’s certainly not easy to balance all of the various demands linked to this condition. Diabetic seizures, however, are an additional symptom that no one wants to experience. Fortunately, we have some control over all of this. By managing our diabetes to the best of our abilities, we are less likely to end up experiencing these and other nasty complications.