

Acute and chronic complications of diabetes and its types

Arif Gill*

Received: 26-Oct-2022, Manuscript No. FMDM-22-83223; **Editor assigned:** 28-Oct-2022, PreQC No. FMDM-22-83223 (PQ); **Reviewed:** 14-Nov-2022, QC No. FMDM-22-83223; **Revised:** 23-Nov-2022, Manuscript No. FMDM-22-83223 (R); **Published:** 30-Nov-2022, DOI: 10.37532/1758-1907.2022.12(S1).101-102



Description

A consequence of diabetes known as diabetic retinopathy occurs when high blood sugar damages the blood vessels in the retina's light-sensitive region (the back part of the eye). A crucial component of vision is the retina, which records the images the eye sees and transforms them into electrical signals that are delivered to the brain. The brain then analyses the electrical signals, so understand what are seeing. Retinopathy is primarily brought on by diabetes. When a person has diabetes for 20 years or more, diabetic retinopathy affects more than 80% of them.

Both type 1 and type 2 diabetics can develop diabetic retinopathy; the probability of getting the condition rises with disease duration and is higher in patients with poorly controlled blood glucose levels. Retinopathy means "diseases of the retina." It is an broad term describing several conditions.

- Non-proliferative retinopathy, a form of retinopathy that first manifests as swelling or obstruction of the blood vessels.
- Proliferative retinopathy is blood vessel damage that deprives the retina of oxygen, creating macular edema, which causes fluid to flow into the macula (centre of the retina) and blurry vision

When the retina is damaged, it may go unnoticed at first but eventually lead to visual issues that cannot be treated with contacts or glasses. People

with diabetes must have routine eye checkups from an eye doctor.

■ Preventing eye problems

- Smoking can increase chances of developing retinopathy. Talk with doctor about ways to help stop smoking
- Control blood sugar, blood pressure, and blood fats (triglycerides)
- Be physically active for at least 30 minutes a day
- Maintain a healthy weight
- Limit carbohydrates and sugar, eat foods high in fiber, healthy fats and protein

The type of retinopathy will determine how it is treated. Eye issues can be avoided by managing blood sugar and blood pressure. Vascular Endothelial Growth Factor (VEGF) is a protein that is rapidly increasing in the retina and is linked to the development of diabetic retinopathy. In order to increase the amount of oxygen delivered to the tissue, VEGF induces the growth of new blood vessels in the retina, but diabetes prevents blood circulation. The most sensitive region of the retina, which is where vision is produced, the centre of the retina, can get flooded with fluid as a result of blood vessel leaking from diabetic retinopathy. The most frequent forms of treatment employed when macular edema is present or symptoms have developed into proliferative retinopathy are as follows:

Department of Medicine, Monash University, Clayton, Australia

*Author for correspondence: Email-arifg@astin.org.au

- Anti-VEGF injections that assist in lowering retinal protein synthesis
- Corticosteroids, a medication that lowers inflammation or the quantity of fluid in the retina
- Focal/grid macular laser surgery, a laser procedure that repairs eye tissue damage or removing all of the damaged blood vessels altogether.

■ **Diabetes and heart disease**

Lipids are fatty substances that the body generally produces. They are also known as cholesterol and triglycerides. When lipid levels in the blood are abnormally high or low, it is called dyslipidemia. The most typical forms of dyslipidemia include:

- High levels of LDL or “bad” cholesterol, or low-density lipoprotein
- Low concentrations of HDL, or “good” cholesterol
- High triglyceride levels (fats in the blood)

Atherosclerosis, often known as “hardening of the arteries,” is a condition in which fatty deposits called plaque accumulate in the arteries over time. Dyslipidemia is a contributing factor. Blood travels through the arteries from the heart to the rest of the body. More prone to get heart disease, heart attack, peripheral artery disease (restricted blood flow in the extremities, most frequently the legs), and stroke if plaque narrows arteries.

Diabetes increases the risk of atherosclerosis, heart disease, impaired circulation, and stroke compared to non-diabetics. Numerous risk factors for atherosclerosis and associated consequences are present in many diabetics. High blood pressure, being overweight, and high blood glucose (sugar) levels are a few of them. Dyslipidemia increases the danger of atherosclerosis in people with diabetes.

High levels of triglycerides and low levels of HDL cholesterol are the most typical dyslipidemia in people with diabetes. Diabetes patients may also have elevated LDL cholesterol levels.

There are no signs of dyslipidemia (what the person feel). It is discovered by medical professionals *via* a blood test called a lipid

profile. This examination counts the levels of triglycerides, cholesterol, and other lipids in blood. Normal lipid profiles are present in people following an overnight fast.

Many things can affect person lipid levels. They include:

- Age, sex, and family history of heart disease
- Lifestyle factors such as what the person eat, level of physical activity, alcohol use, and smoking
- High blood pressure
- High blood glucose levels
- Some medications

➤ To detect the amount of glucose in body fluids, a tiny, disposable sensor is implanted beneath the skin. Depending on the model, the sensor is changed every 3 to 7 days.

➤ The sensor is placed on the skin, and a small transmitter is attached to it. It transmits data about glucose levels through radio waves to a wireless monitor, also known as a receiver, which displays the data on a screen in a mobile phone-sized gadget.

➤ The monitor is kept in a user’s pocket or worn on a belt. The monitor has an alarm that sounds when the target glucose level has been exceeded. Information can be seen on an insulin pump immediately in some devices.

Multiple types of reports about glucose levels are available from CGM systems. For instance, one report plots the typical glucose levels over a period of time, such as a full day and night. Additionally, CGM devices let users record when they take medications or eat meals, which can help understand their glucose trends.

Glucose levels can fluctuate abruptly or very quickly. A CGM device may be ideal for need to take insulin for type 1 or type 2 diabetes. Children as young as 2 years old may even wear CGMs, depending on the CGM. Studies have shown that CGMs can assist diabetics in maintaining target blood glucose levels without increasing their risk of severe hypoglycemia. CGM may not be for everyone, according to some people. They struggle to adjust to dealing with alarms and having a sensor under their skin.