

Complications caused due to diabetic ketoacidosis

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Description

Diabetic ketoacidosis (DKA) is a significant diabetic complication that can be fatal. DKA is more frequent in type 1 diabetic patients. DKA can occur in people with type 2 diabetes. DKA causes when body does not produce enough insulin to let blood sugar into the cells for energy usage. Instead, the liver breaks down fat for energy, which generates acids known as ketones. When patients' bodies produce too many ketones too fast, they might accumulate harmful amounts in their bodies. The vital hormone insulin lowers blood sugar levels by assisting the body in absorbing and using blood glucose. In the absence of insulin, body lipids are broken down to serve as a substitute energy source in place of blood sugar. However, as a result of this breakdown of fat, acidic waste chemicals called ketones are released and accumulate in the blood and urine. Osmotic diuresis refers to the higher amounts of glucose that migrate into the urine as a result of high blood sugar levels. Water and other solutes like potassium and sodium are also excreted in the urine during osmotic diuresis. This causes dehydration and compensatory thirst, also known as polydipsia, as well as the frequent excretion of large amounts of urine, or polyuria.

■ Symptoms

DKA normally progresses slowly. Early signs and symptoms include: Being thirsty and urinating a lot more than normal. If left unaddressed, more serious symptoms are developed such as

breathing problems, skin and lips parched, face flushing, headache, muscle pains or stiffness, exhaustion, vomiting, nausea and stomach ache.

■ Causes

DKA is frequently triggered by circumstances that increase the body's need for insulin.

Acute infection is about the body requires more glucose when it is infected, yet there may not be enough insulin to stimulate the body's uptake of glucose from the blood. The illness, a urinary tract infection, pneumonia, and gastroenteritis are a few examples of diseases that might result in this issue.

Delayed insulin doses may cause insufficient insulin levels, which can cause DKA. This might also occur if an insulin pump is broken or incapable of giving a patient the necessary dose of insulin.

■ Diagnosis and treatment

Blood in DKA patients has the following characteristics, Blood's pH is less than the standard 7.3, Ketone levels in the blood and urine are high, Low blood osmolality and potassium deficiency.

An insulin injection to rectify the relative shortage of insulin is typically sufficient to treat DKA when it is identified early. Hospitalization is necessary for patients with more severe and advanced diseases because they are more likely to experience life-threatening complications like unconsciousness, dehydration, and brain damage. For these people, a mix of fluids to treat

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dehydration and insulin to treat hyperglycemia is administered. People receive treatment in the emergency room or be admitted to the hospital they develop DKA. The treatment will probably consist of restoring the fluids that are lost from frequent urination and reducing the blood's excess sugar, changing the electrolytes (minerals in the body that help the nerves, muscles, heart, and brain work the way they should). The electrolyte levels can drop if they take too little dosage of insulin. The DKA-causing diseases are treated with insulin. Antibiotics are used for treatment.

Although DKA is a serious condition, there are things can do to help prevent it: Monitor the blood sugar levels frequently. The person needs to keep their blood sugar levels normal as much as possible. Even if the patient feels fine, they need to take medications as directed. Consult the doctor for advice on how to change the insulin dosage in response to what they eat, how active they are, or whether they have any other diseases.