

III B.SC BIOCHEMISTRY
CLINICAL BIOCHEMISTRY (16SCCBC9)
SEMESTER: VI

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DIABETIC COMA

A **diabetic coma** is a life-threatening **diabetes** complication that causes unconsciousness. If you have **diabetes**, dangerously high blood sugar (hyperglycemia) or dangerously low blood sugar (hypoglycemia) can lead to a **diabetic coma**.

Causes

Diabetic coma is mainly caused by an extremely high or low blood sugar level. Conditions include:

- Diabetic hyperosmolar syndrome
 - Blood sugar could be as high as 600 mg/dL
 - No ketones (byproducts of the breakdown of fatty acids) in urine
 - Blood is thicker than normal
 - Happens in people with Type 2 diabetes
- Diabetic ketoacidosis
 - Could happen with a blood sugar as low as 250 mg/dL or even lower in some cases
 - Body uses fatty acids instead of glucose for fuel
 - Ketones develop in urine and bloodstream
 - More common in people with Type 1 diabetes

Symptoms

Hyperglycemia (high blood glucose) symptoms are:

- Tiredness

- Abdominal pain
- Shortness of breath
- Increased urination
- Weak pulse
- Drowsiness
- Walking unsteadily
- Increased thirst
- Rapid heart rate
- Dry mouth
- Fruity smell to your breath
- Hunger

Hypoglycemia (low blood glucose) symptoms are:

- Weakness
- Sweating
- Tiredness
- Anxiety
- Fast breathing
- Shakiness
- Nervousness
- Nausea
- Confusion
- Problems communicating
- Light-headedness
- Hunger
- Dizziness

When blood sugar is too low, the brain does not receive enough fuel. This can be caused by:

- Drinking too much alcohol
 - Eating too little
 - Exercising too much
 - Taking too much insulin
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- People with Type 1 diabetes have a greater chance of going into a diabetic coma as a result of diabetic ketoacidosis or hypoglycemia. This is because people with Type 1 diabetes always use insulin and have a wider range in their blood glucose levels than people with Type 2 diabetes.

- People with Type 2 diabetes have a greater chance of going into a diabetic coma from diabetic hyperosmolar syndrome than from diabetic ketoacidosis or hypoglycemia.

Risk Factors

Other risks that can lead to diabetic coma in anyone who has diabetes include:

- Surgery
- Trauma
- Illness
- Insulin delivery problems
- Poor diabetes management
- Drinking alcohol
- Skipping doses of insulin
- Using illegal substances

Treatment

- Intravenous fluids
- Supplements of phosphate, sodium, and potassium
- Insulin
- Glucagon (a hormone to increase blood sugar)
- Intravenous fluids
- 50% dextrose solution