

The impact of acute diabetes on quality of life from hyperglycemic emergencies to diabetic ketoacidosis



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Description

Metabolic disturbances that require urgent medical attention. These emergencies can occur in individuals with both type 1 and type 2 diabetes, reflecting profound imbalances in blood glucose levels and metabolic processes. Understanding the signs, causes, and initial management of acute diabetes is significant for timely intervention and improved patient outcomes.

■ Types of acute diabetes emergencies

Acute diabetes emergencies commonly manifest as Diabetic Keto Acidosis (DKA) and Hyperosmolar Hyperglycemic State (HHS). DKA predominantly affects individuals with type 1 diabetes but can also occur in type 2 diabetes under certain circumstances, such as severe illness or medication non-adherence. It is characterized by hyperglycemia (high blood glucose levels), ketosis (accumulation of ketone bodies), and metabolic acidosis.

On the other hand, HHS primarily affects individuals with type 2 diabetes and is characterized by extreme hyperglycemia without significant ketosis. Both conditions are associated with systemic dehydration, electrolyte imbalances, and potentially life-threatening complications if not promptly treated.

■ Symptoms and clinical presentation

The symptoms of acute diabetes emergencies can develop rapidly and include following symptoms.

DKA: Excessive thirst, frequent urination, abdominal pain, nausea, vomiting, fruity-

smelling breath (due to ketones), confusion, and rapid breathing.

HHS: Profound dehydration, extreme thirst, confusion, weakness, visual disturbances, and seizures in severe cases.

These symptoms often signify severe metabolic derangements requiring immediate medical evaluation and intervention.

■ Causes and risk factors

The underlying causes of acute diabetes emergencies often involve a combination of insulin deficiency (in type 1 diabetes or severe insulin resistance in type 2 diabetes), increased counter-regulatory hormones (such as glucagon and cortisol), and triggers such as infections, stress, or inadequate insulin administration.

Risk factors for developing these emergencies include poor glycemic control, medication non-adherence, new-onset diabetes, infection (especially in DKA), and conditions that increase insulin resistance (such as acute illness or corticosteroid use).

■ Immediate management

Early recognition and prompt treatment are essential in managing acute diabetes emergencies. Immediate steps include fluid resuscitation intravenous administration of isotonic saline to address dehydration and restore circulating volume. Insulin therapy continuous intravenous insulin infusion (for DKA) or subcutaneous insulin injections (for HHS) to lower blood glucose levels and suppress

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ketogenesis. Electrolyte replacement correction of electrolyte imbalances, particularly potassium and bicarbonate, guided by frequent monitoring of blood electrolyte levels. Identification and treatment of precipitating factors addressing underlying triggers such as infections or discontinuation of insulin therapy.

■ Follow-up care and prevention

After stabilization, ongoing management focuses on identifying the precipitating factors, optimizing diabetes management, and educating patients on recognizing early signs of acute diabetes emergencies. Close monitoring of blood glucose levels, adherence to insulin therapy, and regular medical follow-ups are important in preventing recurrent episodes. Continued vigilance in monitoring blood glucose levels ensures timely adjustments to insulin therapy,

maintaining stable glycemic control. Patient education plays a pivotal role in empowering individuals to manage their condition effectively, promoting early intervention and minimizing the risk of future acute episodes.

Acute diabetes emergencies represent critical metabolic disturbances requiring immediate medical intervention. Timely recognition of symptoms, understanding of underlying mechanisms, and swift initiation of treatment are paramount in improving outcomes and reducing complications. Continued education of healthcare providers and patients alike is essential in raising awareness and promoting early intervention, ultimately contributing to better management and outcomes in acute diabetes emergencies.