Emergency Management in Diabetes

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There are two classifications of diabetic emergencies – hypoglycemia and hyperglycemic crisis. Both have a wide range of signs and symptoms from minor disturbances to serious complications such as coma, even death, if left untreated. These situations require emergency medical intervention.

Hypoglycemia is a condition characterized by abnormally low blood glucose levels (less than 70 mg/dL). Signs and symptoms of neuroglycopenic and adrenergic system can be recognized to prevent complications such as arrhythmia, seizure, loss of consciousness, and death. Hypoglycemia is the commonest diabetic emergency and current management is suboptimal. Standardized protocols and better education of healthcare professionals and patients are required.

There are two types of hyperglycemic crisis. Diabetic ketoacidosis (DKA) and hyperosmolar hyperglycaemic state (HHS; or hyperosmolar non-ketotic hyperglycaemia). It has long been assumed that DKA is the pathogonomic of type 1 diabetes mellitus, but it is now recognized that DKA can occur in type 2 diabetes, especially in African-American and ethnic minorities. The pathogenesis of DKA or HHS comprises insulin deficiency with increased counter-regulatory hormones of glucagon, catecholamines, cortisol and growth hormone, leading to increased glucose production in the liver and decreased utilization in peripheral tissues. The most common precipitating cause of DKA and HHS is infection, responsible for nearly half the cases. Any stressful conditions such as cardiovascular accident, myocardial infarction, trauma, drugs and non-compliance can also precipitate the crisis. Treatment and pitfall in management should be emphasized to improve clinical outcome.

References

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