SEVERE HYPOGLYCEMIA AND DIABETIC KETOACIDOSIS: RECOGNITION AND MANAGEMENT

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INTRODUCTION

Severe hypoglycemia and diabetic ketoacidosis (DKA) are acute complications of diabetes mellitus associated with high mortality, especially when not recognized and treated early. Both conditions require rapid and effective interventions to prevent adverse outcomes.

METHODOLOGY

The research used current guidelines from the American Diabetes Association (ADA), the Society of Critical Care Medicine (SCCM), and articles published in PubMed. Epidemiological data and clinical practices in management were reviewed.

DISCUSSION

Severe hypoglycemia occurs with blood glucose < 54 mg/dL and presents with confusion, seizures, or coma. Management includes intravenous glucose administration and continuous monitoring. DKA, marked by hyperglycemia (> 250 mg/dL), metabolic acidosis (pH < 7.3), and ketonemia, requires volume replacement, insulin therapy, and correction of electrolyte disturbances. Rapid fluid replacement with isotonic saline is the initial pillar in managing DKA. After hemodynamic stabilization, regular intravenous insulin is initiated, gradually reducing blood glucose to avoid cerebral edema. Frequent monitoring of potassium is essential due to the risk of hypokalemia with insulin administration.

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RESULTS

Studies indicate that appropriate management reduces mortality from DKA to less than 5%. In severe hypoglycemia, immediate interventions such as intravenous glucose result in rapid clinical improvement in more than 95% of cases.

CONCLUSION

Early recognition and effective management of severe hypoglycemia and DKA are essential to improve clinical outcomes. Protocols based on international guidelines should be implemented in emergency departments to standardize care.

REFERENCES

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