

PCCN Clinical Practice Guideline: Diabetic Ketoacidosis (DKA)
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Preamble

Diabetic ketoacidosis (DKA) is the most common cause of hospitalization in children with Type I diabetes mellitus, and the leading cause of morbidity and mortality in this population. Mortality rates from DKA range from 0.15% to 0.31%, and cerebral edema is the leading cause (57-87%) of these DKA-related deaths. The ideal method of treatment is still debated in the literature, including controversy over whether cerebral edema can be predicted or prevented. The typical onset of cerebral edema is within 4-12 hours of initiating treatment, but has been reported to be present even prior to treatment.

Key principles

1. Initial priorities include assessing and stabilizing ABCs – fluid bolus only for frank shock (hypotension, delayed capillary refill)
2. Initial fluid for rehydration is normal saline (0.9% NaCl)
3. Careful correction of hyperosmolar state – therefore insulin bolus NOT indicated to avoid rapid change in serum glucose
4. Failure of serum sodium to rise with treatment indicates need for continuing isotonic fluid replacement beyond usual guidelines
5. Hyperkalemia prior to treatment and hypokalemia with treatment both commonly seen in DKA
6. Sodium bicarbonate therapy NOT recommended for routine treatment of acidosis
7. Patients should be observed closely for signs of increasing cerebral edema

References

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