EVALUATION OF MANAGEMENT OF DIABETIC KETOACIDOSIS IN CRITICALLY ILL PATIENTS
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OBJECTIVE: Diabetic ketoacidosis (DKA) is an acute and life-threatening complication of diabetes that is characterized by hyperglycemia, ketoacidosis, and ketonuria. It is associated with significant morbidity, mortality, and healthcare costs. According to the American Diabetes Association (ADA), the mortality rate for DKA is less than 5% in experienced treatment centers. Effective treatment requires several components, including treatment of dehydration, hyperglycemia, and electrolyte abnormalities. Many institutions have established a defined protocol to ensure proper and effective management of DKA. This review will assess the current management of DKA in our institution. If our practice is not consistent with the recent ADA guidelines (2009), possible implementation of a hospital-wide protocol for the management of DKA might be feasible for our institution.

METHODS: This is a retrospective, single-center, chart review of patients diagnosed and managed for DKA in the Emergency Department (ED), Intensive Care Unit (ICU) or Cardiac Care Unit (CCU) between August 2009 and January 2013. The primary endpoint is compliance with the most recent 2009 ADA guidelines. Secondary endpoints include mean and median acute care and overall length-of-stay, mean and median blood glucose, time to anion gap closure, time to negative ketones in urine or serum, re-emergence of anion gap after initial correction, and the incidence of hypoglycemia and hypokalemia. Electronic and paper chart records were used for data collection. All data analysis will be performed with SPSS 16.0, using Fisher’s exact test for dependent variables, and the Mann-Whitney U test for dependent, continuous variables. Expedited institutional review board (IRB) approval was obtained, and no informed consent is needed.

RESULTS: The data will be recorded and analyzed, and the results will be presented.

CONCLUSION: It is anticipated that this study will help determine areas for improvement in our institutional practice in the management of DKA in accordance with ADA guidelines. Any identified deficiencies in management of DKA will justify the importance of establishing a treatment protocol.

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