A retrospective analysis of predictors for length of intensive care stay for patients admitted with diabetic ketoacidosis

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Introduction:
Diabetic ketoacidosis (DKA) is one of the most common metabolic causes of admission to the intensive care unit (ICU). The incidence of DKA is quoted as between 4.6-8 episodes per 1000 patients with diabetes mellitus (DM) [1]. We aim to establish the factors that affect length of stay (LOS) on ICU.

Methods:
We undertook an analysis of patients admitted to ICU over the last 7 years with a primary diagnosis of DKA. We assessed whether there was an association between the following factors and an increased length of ICU stay: age, gender, body mass index (BMI), systolic blood pressure, heart rate, sodium, potassium, haemoglobin and pH. These factors were assessed using multiple linear backward stepwise regression.

Results:
Overall, 94 admissions were identified over the time period from the ward watcher database. The median LOS was 2.4 days (IQR 1.3 – 4.7). Our analysis demonstrated that length of ICU stay (alpha level <0.05) was significantly associated with BMI, low systolic blood pressure, and the presence of hyponatraemia or hypernatraemia.

Conclusion:
We found the variables that affect the LOS for patients presenting to our unit with DKA are BMI, low systolic BP, low sodium and high sodium. We intend to extend this work to include survival analysis with the same subgroup of patients.

References: