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Patients With Diabetic Ketoacidosis Affected By Protein Calorie Malnutrition Have In-Patient High Mortality And Increased Resource Utilization, Nation Wide Study

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Abstract

BACKGROUND: Diabetic ketoacidosis (DKA) is a common cause of hospitalizations every year. Protein calorie malnutrition (PCM) is a known predictor of adverse outcomes. There is limited evidence of clinical outcomes in the population admitted with DKA affected by PCM.
OBJECTIVE: We aimed to investigate DKA population affected by PCM in terms of clinical outcomes and resource utilization.

METHODS: We queried NIS between 2017-2020 for adult patients who were hospitalized with DKA and had PCM. The primary outcome was inpatient mortality. The secondary outcomes were cardiogenic shock, cardiac arrest, intubation, length of stay (LOS) and total hospital cost. Multivariable logistic and Poisson regression analyses were used to estimate clinical outcomes. p-value < 0.05 was significant.

RESULTS: There were 1,239,020 hospitalizations with DKA, of which 66,870 (5.4%) had PCM.
PCM cohort had statistically significant higher mortality & worse clinical outcomes [cardiac arrest OR 1.19, GI bleed OR 1.31, Intubation rates OR 1.5, Length of stay in days 9.6 days vs 4.7 days DAYS. Hospitalization cost ~$26k vs ~$13.5k. All adjusted for age, sex, race, Charlson comorbidity index score, obesity, atrial fibrillation, diabetes mellitus, COPD, HTN, PVD, AKI, CKD, nicotine and alcohol use, stroke history.

DISCUSSION & CONCLUSIONS: Patients admitted with DKA and co-existent PCM had significantly higher rates of in-patient mortality, gastrointestinal bleeding, need for intubation, length of stay and higher resource utilization. Both cohorts were majority white males. Detection and appropriate management of PCM in patients with admitted with DKA may have clinical benefit and play a role in prognostication.