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Clinical characteristics and outcomes of care in adult patients with diabetic ketoacidosis - Don’t forget the K+ in DKA

Mrs Panitta Plianpan[1], Dr. Yotsapon Thewjitcharoen[1], Ms. Soontaree Nakasatien[1], Professor Thep Himathongkam[1]
[1]*Theptarin Hospital Thailand, Bangkok, Thailand*

Background: Diabetic ketoacidosis (DKA) is a metabolic catastrophe which could occur in any type of diabetes. Even fundamental key points of DKA treatment had been perceived, some differences exist about treatment protocols in each physician, highlighting the need to assess adherence to DKA guideline.

Materials and Methods: A retrospective study of DKA episodes admitted over a 12-year period (2005-2017) was done in Theptarin Hospital, a multi-discipline based diabetes center in Bangkok.

Results: A total of 65 DKA episodes occurred in 52 diabetic patients (females 61.5%, mean age 48.6±20.6 years, T1DM 53.8%, T2DM 38.5 %, A-β+ Ketosis-prone diabetes 7.7%, baseline A1C 11.2±3.0%) during study period. While infection was the common precipitating factor in T2DM, omission of insulin was the usual precipitating factor in T1DM. SGLT2i-induced DKA had been found in 2 cases (one case of euglycemic DKA in T1DM and one case of urosepsis/SGLT2i-induced DKA in T2DM patient). During ongoing management, 33% of patients developed hypokalemia and, of those, supplementation was not prescribed as per protocol in all patients. Almost 11% of patients experienced hypoglycemia in the first 24 hours. One patient expired from the precipitating cause of DKA.

Conclusion: Inadequate metabolic monitoring and iatrogenic hypoglycemia remain areas of concern of DKA management. Occurrence of hypokalemia was related to poor adherence to protocol guidance on potassium supplementation. A strengthened educational program for nursing and medical staffs should be emphasized to focus on metabolic monitoring and improved patient contact after hospital discharge