Open Access
www.openaccessjournals.com

Journal of Diabetes Medication & Care

Evaluation of Fluid Therapy by Point-of-Care Ultrasound in Hyperglycemic Emergencies

Busra Bildik

University of Health Science, Istanbul, Turkey

Biography

Busra Bildik is graduated from Pamukkale University and she is doing her residency in the department of emergency medicine of Kanuni Sultan Suleyman Training and Research Hospital. She is one of the board members in "Young Emergency Physicians Society" of "Emergency Medicine Physicians Association of Turkey". She has become a co-author for over 7 publications and she is still working on her researches.

Abstract

Aims:

Diabetic ketoacidosis (DKA) and Hyperosmolar hyperglycemic state (HHS) are among the cases where total body fluid deficit is high. Although it is known that dehydration is one of the main determinants of mortality and morbidity, it is difficult to determine and follow up fluid treatment in patients with multiple comorbidities. Measurement of the respiratory variability of the vena cava inferior diameter and vena cava inferior / aortic diameter measurement can be performed easily and quickly at the bedside and have a high objectivity compared to physical examination. In this study, we evaluated the follow-up of fluid therapy by POCUS with vena cava inferior diameter and vena cava inferior diameter / abdominal aortic diameter ratio in patients presenting with hyperglycemic emergencies (DKA, HHS, severe hyperglycemia).

Methodology:

56 patients diagnosed with severe hyperglycemia, DKA and HHS according to the American Diabetes Association (ADA) diagnostic criteria were included in the study.Vital signs, laboratory tests(venous blood gas analysis, complete urinalysis, osmolarity, fingertip blood glucose level), fluid volume and bedside ultrasonographic measurements [vena cava inferior inspiration and expiration (iVCI and eVCI) diameter,vena cava inferior colapsiability index (VCI index), abdominal aorta diameter and ratio of vena cava inferior to abdominal aorta diameter (VCI/Ao)] were recorded.

Results:

Of the 56 patients, 21.4% were diagnosed with DKA 8.9%, HHS and 69.6% with severe hyperglycemia. There was a significant difference in osmolarity and although pH values were not statistically significant, it tended to improve with the amount of fluid given. There was a significant difference in iVCI, VCI index and VCI/Ao.

Conclusion:

We believe that planning and monitoring fluid treatment with bedside ultrasonographic VCI diameter and VCI / Ao ratio measurements will reduce the undesirable complications, the intensity of emergency services, long waiting time and follow-up periods and will contribute to patient benefit and emergency departments.

Publications

Characteristics of the Admissions of Old-old Patients to the Emergency Department

Predictive and Prognostic Value of C-reactive Protein/Albumin and Neutrophil/Lymphocyte Ratio in the Patients Diagnosed with Acute Pancreatitis in Emergency Department

Value Of Neutrophile/Lymphocyte Ratio For Differentiation Of Stroke Cases In The Emergency Department

Evaluation Of The Association Between Gall Bladder Wall Thickness And Crp/Alb Ratio In The Patients With Right Upper Quadrant Pain

Evaluation of Fluid Therapy by Point-of-Care Ultrasound in Hyperglycemic Emergencies

Citation: Busra Bildik, *Evaluation of Fluid Therapy by Point-of-Care Ultrasound in Hyperglycemic Emergencies*, Diabetes Summit 2020, 2nd Annual Summit on Diabetes, Obesity and Heart Conference, Dublin, Ireland, 31st July-August 1st, 2020, 05