Inter-Day Glycemic Variability Assessed by Continuous Glucose Monitoring in Type 2 Diabetes Patients on Hemodialysis

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ABSTRACT

Objective:

The aim of this study was to: Determine the actual state of inter-day glycemic variability after initiation of hemodialysis HD by Continuous Glucose Monitoring System over a period of 2 days, including the dialysis day and the following inter-dialytic period "free" day[FD]. Study the relation between this glucose variability and blood glucose profiles (FBG, postprandial blood glucose, and HbA1c) and to assess their value as a therapy guide in patients on hemodialysis. Identify the factors affecting this glycemic variability among diabetic patients on hemodialysis.

Introduction:

Chronic renal failure is a devastating medical, social, and economic problem for patients and their families Delayed diagnosis and failure of institutions to initiate measures to slow down the progression of renal failure has resulted in a predominantly younger In patients with diabetes on chronic dialysis, iterative CGM monitoring was associated with more frequent treatment changes and finally, better glucose control, without increased risk of hypoglycemia, Subjects with CKD and T2DM had important CKD population. Type 2 diabetes patients on chronic hemodialysis (HD) have a high prevalence of cardiovascular complications and often show a poor glycemic control. Single-spot glycemic measurements are not always meaningful, and the hemoglobin A1c (HbA1c) value does not reflect short-term variations in glucose metabolism in this patient category

Patient and methods:
This were an observational, cross-sectional, study carried out on 30 types 2 diabetic patients diagnosed as an ESRD on hemodialysis was recruited from Diabetes and Endocrinology and Nephrology units in Menoufia university Hospital during the period study from September 2019 till March 2021.

Results:
The blood glucose status at free day (Day 1 and Day 3), that hyper blood glucose at day 3 was increased in day 3 (FD) than day 1 according to the hours except at seven o'clock. While hyper blood glucose at days on (Day 2 and Day 4) was increased in day 2 than day 4 according to the hours. **Conclusion**: metabolic imbalance and significant glycemic variability compared to diabetic patients without CKD. and especially to healthy subjects.
Keywords:
Glucose, Hemodialysis, Diabetes, Glycemic.