**Mitigation of hypoglycemia during Ramadan detected by flash glucose monitoring system following dose adjustment of insulin and sulphonyurea in patients taking multiple antidiabetic agents (The PROFAST-IT Study)**

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**Background & hypothesis**: Patients with type-2 diabetes on multiple drug therapy who fast Ramadan are at increased risk of hypoglycemia as shown in the PROFAST Study. We aimed to utilize the technology of flash glucose monitoring system to assess whether adjustment of doses of insulin and sulphonyurea agents will mitigate the risk of hypoglycemia in these patients

**Patients & Methods:** We studied patients with type-2 DM on either basal insulin or a sulphonylurea agent plus at least 2 other anti-diabetic agents before and during Ramadan using the technology of flash glucose monitoring system (FreeStyle Libre), to assess the glucose variability and hypoglycemia episodes. Patients received structured education and underwent dose adjustment of either insulin or sulphonyurea according to PROFAST Ramadan protocol.

**Results:** A total of 85 patients participated in the study. Full data were available only from 29 patients (24 males). There were 17 patients who were on SU+ and 12 patients were on basal insulin+. The average age of patients was 50 years, and diabetes duration of 10 yrs. Average blood glucose in the whole group before Ramadan was 156±34 mg/dl, with 70% of the group had levels within target range, and during Ramadan 160±36 mg/dl with 69.5% of patients were within target range. Total average episodes of hypoglycemia were 3 before Ramadan and 2.2 during Ramadan. There was differential episodes of hypoglycemia with those on SU+ having higher average episodes before Ramadan and lesser during Ramadan (3.7 vs 1.9), and the converse is true for those on basal insulin+ (1.8 vs 2.7). The difference was not statistically different either within or between the two groups (SU+ vs. Basal+). Hypos were mostly mild. Patients were of ethnic admixture.

**Conclusion:** Empowerment of type-2 diabetic patients by education and appropriate dose adjustments of drugs which are notorious in triggering hypoglycemia will help to mitigate the risk of hypoglycemia in such vulnerable patients. Our results will have implications for guidelines of management of patients with diabetes who fast the Holy month of Ramadan.