

pp01 - Poster Display
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Ramadan fasting among Muslims in Type 2 Diabetes: A comparison between sulfonylurea and non-sulfonylurea treated patients using (CGM)

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Introduction: Many Muslim patients with diabetes practice dawn to dusk fasting during the holy month of Ramadan. We have used CGM to compare the changes in glucose profiles among two groups of patients with different oral hypoglycaemic agents.

Methods: Patients with type 2 diabetes mellitus were selected from our CGM study of Ramadan fasting on basis of treatment category. Insulin treated patients were excluded from analysis. Eleven patients whose treatment did not include a sulfonylurea (SU- group)) were compared with four patients who did take a sulfonylurea+other oral hypoglycaemic agents (SU+group). For each subject CGM was performed for three days during Ramadan fasting. A second CGM for three days was performed Ramadan fasting. Any change of medication dose/timing was at the discretion of the attending physician. CGM during Ramadan fasting period was performed on three non-diabetic volunteers. Mean CGM curves were constructed on each group for Ramadan and non- Ramadan periods. High blood glucose Index (HBGI) was calculated for each group using methods previously described.

Results: With Ramadan fasting, mean glucose level increased from 137 ± 9.1 to 146.2 ± 19.0 mg/dl in the SU- group ($p < 0.0001$) and from 148.3 ± 11.3 to 153.6 ± 23.1 mg/dl ($p < 0.005$) in the SU+group ($p < 0.0001$). During Ramadan fasting period CGM curves in both groups showed a characteristic rapid rise-previously reported by our group in blood sugar at Iftar* time. The magnitude of this rise was higher in the sulfonylurea group. There was a highly significant difference in mean glucose level between the two groups which persisted during Ramadan fasting. HBGI during Ramadan fasting was 4.4 ± 3.7 and 8.3 ± 1.1 in SU+ & SU- groups ($p < 0.0001$). HBGI before Ramadan fasting in the two groups was 2.0 ± 0.25 and 2.4 ± 0.24 respectively. The difference in HBGI between pre-Ramadan & Ramadan periods within each group of patients was statistically significant.

Conclusion: In the groups studied, overall glycaemic control was worse among patients on sulfonylurea treatment. The difference in glycaemic control was exaggerated during Ramadan fasting. There was a slight but statistically significant deterioration in glycaemic control with Ramadan fasting which was mostly due to the glucose excursions after *Iftar.

*Iftar-breaking of fasting at sunset.