

INSIGHTS INTO THE CONCEPT OF SAFE RAMADAN FASTING USING CGM-DERIVED METRICS

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Background and Aims: Ramadan fasting (RF) in patients with diabetes increases risk of dysglycaemia, and glycaemic variability (GV). Patient's perception of safe RF focuses mainly on hypoglycaemia risk. We have used paired CGM data during pre-Ramadan (PR) and (R) periods to investigate magnitude and direction of changes in glycaemic parameters in patients with satisfactory and unsatisfactory control PR and relate this to specific treatment modalities.

Methods: 10 patient pairs (PP) with complete CGM data were selected based on treatment modalities and were divided into satisfactory (glucose in range 70-180 mg/dL >70% of time) and unsatisfactory glucose control groups. Raw CGM blood glucose (BG) data were then analysed and median (IQR) BG was plotted using cgmanalysis package (R-studio) and EasyGV.

Results: In OHA-treated patients, those prescribed sulphonylureas displayed the widest range of GV (80-350 mg/dL). Compared to T2DM patients on insulin (150-300 mg/dL), T1DM patients showed better control during Ramadan (100-180 mg/dL); PANEL A. In patients with unsatisfactory control pre-Ramadan, there was a significant and marked deterioration in markers of overall control, risk and glucose variability with RF.

The difference between satisfactory and unsatisfactory control groups (in CONGA, LI, J-Index, MODD, MAGE, ADRR, CV, excursion >180 mg/dL and HBGI) was exaggerated during RF.

Conclusions: Patients with unsatisfactory control before Ramadan show a marked deterioration with RF. Patients on insulin and/or sulphonylureas show the greatest detrimental change. CGM-derived indicators of good control need to be incorporated into the concept of "safe Ramadan fasting".

References

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