FUNDAMENTAL DIFFERENCES IN GLUCOSE STABILITY IN PATIENTS ON INSULIN COMPARED TO DIET/METFORMIN TREATED PATIENTS DURING RAMADAN FASTING: INSIGHTS FROM POINCARÉ PLOT

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Introduction: The Poincaré plot (PCP) is a valuable tool for describing glucose variability from continuous glucose monitoring (CGM). We used this plot to study the temporal glucose variability derived from CGM in patients fasting during Ramadan.

Methods: Fifteen patients with diabetes (8 on insulin; 7 on metformin or diet alone) had CGM performed during and before Ramadan fasting. PCPs were constructed with a fixed Δt value of 30 minutes. A comparison of the two groups was made .

Results: Different patterns in PCP were seen in the diet/metformin v insulin groups (fig 1). Diet/metformin group showed a more concentrated plot with less scatter and greater stability which changed little during Ramadan fasting. In contrast, in the insulin treated group greater scatter was seen which was exaggerated during the Ramadan fast.

Conclusion: We have used PCP for the first time in order to assess changes in glucose stability in the context of Ramadan fasting. PCP may provide a graphical method of quantifying risk in different medication groups in this context.