

New option of treatment for the Honey moon phase of type1 diabetes

Fawzia Alyafie, Ashraf Soliman , Ahmed Elawaa

Department of Pediatrics, Hamad Medical Center, Doha, Qatar

Introduction

The honeymoon period of type 1 diabetes mellitus (DM1) is characterized by reduced insulin requirements to < 0.5 Units/kg/day while maintaining good glycaemic control.

Case study

7 years old boy who was diagnosed with Type1 diabetes mellitus presented with history of polyuria, polydipsia and weight loss for 3 weeks duration. His random Blood glucose = 408 mg/dl with initial HBA1C 12.7%.

Family history was unremarkable for diabetes or other autoimmune diseases.

He had normal growth with no goiter or acanthosis nigricans.

Systemic exam was unremarkable.

He had low insulin level of 1.5 μ u/ml and C peptide = 0.27ng/ml and normal thyroid function.

AntiGAD antibodies were 12.6 IU/ml.

Patient was started on multiple daily injection of insulin glargine 7 units in the evening + insulin Aspart before meals (using carbohydrate count (1 Unit/ 25g) and BG correction (1 unit/ for 50mg/dl).

After 2 weeks developed frequent hypoglycaemias that required decreasing total insulin dose to 0.2 unit/kg/day (honey mooning) Table.

Before breakfast mg/dl	Before lunch mg/dl	Before dinner mg/dl	Bed time mg/dl
86	103	182	180
85	68	105	190
73	60	120	74
61	83	112	95

The dose of Glargine was decreased to 3 units/day at night and prandial Aspart discontinued as he was developing sever postprandial hypoglycemia.

In spite of that, hypoglycemia continued to occur.



Results

Continuous glucose monitoring (CGM) for 4 days showed severe hypoglycaemia reaching 40smg/dl almost daily from 3.30am to 6.30am (figure 1).

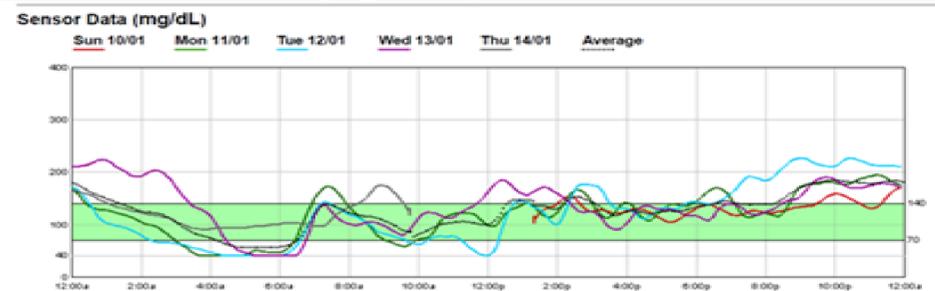


Figure 1: CGMS 1: Sever frequent hypoglycaemia

Glargine was discontinued and Detemir insulin given on 2 divided doses 2 units AM and 1unit PM. CGM displayed no attacks of hypoglycaemia with highest blood glucose of 180 mg/dl and lowest of 85mg/dl (figure 2)

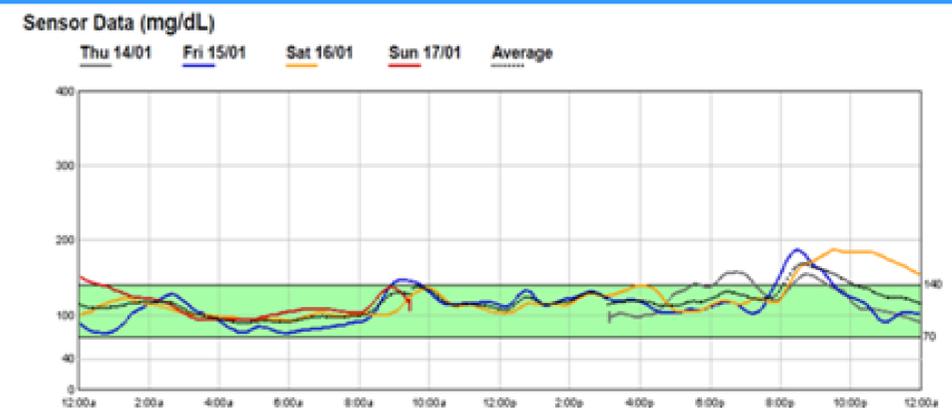


Figure2: CGMS 2: No hypoglycaemia

Discussion

The ongoing debate comparing Glargine and Detemir insulins is over which insulin has a flatter pharmacodynamics profile and longer duration of action is still there. In this patient, Detemir insulin appears to be better in avoiding hypoglycemia between 3.30am to 6.30am probably due to the prolonged effect of Glargine and overlap of its doses.

Conclusion

Some patients of DM1 develop hypoglycemia during their "honeymoon period" in which the symptoms remit and the patient requires little or no insulin. In our patient CGM monitoring showed that low doses of Detemir successfully abolished hypoglycemia. CGM proved to be a good method for managing this patient with frequent hypoglycaemia.

