Idiopathic Postprandial Hyperinsulinaemic Hypoglycaemia

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Background

In idiopathic postprandial hyperinsulinaemic hypoglycaemia (PPHH) symptoms compatible with hypoglycaemia occur in the first 4 hours post meal and coincide with glucose concentrations lower than 3.5mmol/l (63 mg/dL) and symptoms improve with dietary manipulation. Only a few case reports have described PPHH in children.

Aims

To describe a single tertiary paediatric centre's experience in the diagnosis and management of isolated PPHH.

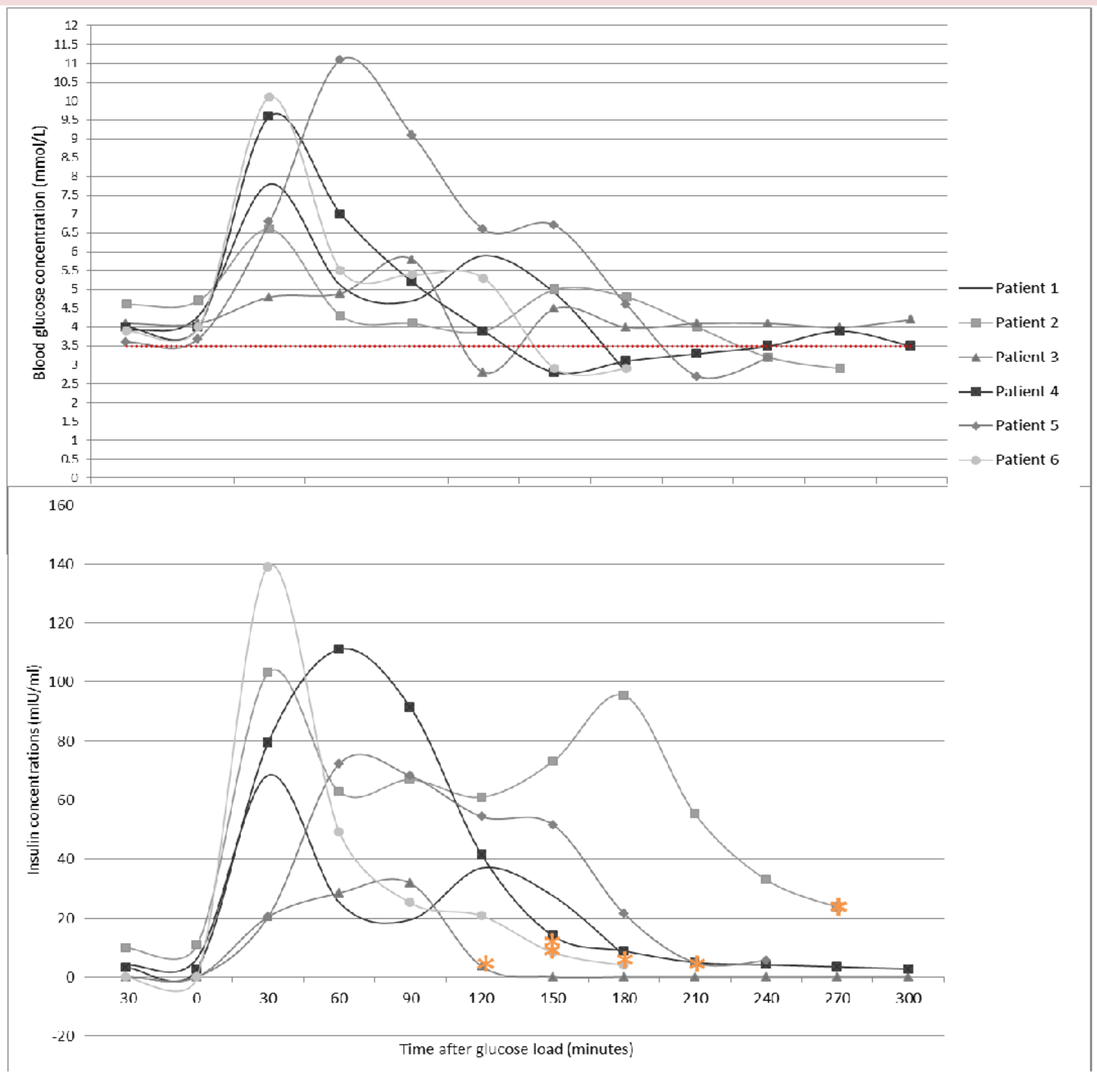
Results

Table 1. *Patients Characteristics*

	Mean ± SDS
Age at onset of symptoms (years)	7.33 ± 3.18
Age at 1st visit for investigations (years)	8.20 ± 3.68
Height at the first visit (SDS)	0.28 ± 0.39
Weight at the first visit (SDS)	0.16 ± 0.44
BMI at the first visit (SDS)	0.47 ± 0.35
Age at diagnosis (years)	9.48 ± 3.48

All the patients showed a normal fasting tolerance.

Figure 1. *Glucose and insulin concentrations during initial prolonged OGTT. Insulin concentrations taken at the time of hypoglycemia are highlighted with a star**



Management

3 patients were tried on acarbose, which had a positive glycaemic and symptom-control effect, but due to its side effects 1 patient discontinued it. 1 patient responded to diazoxide. The other patients were managed on frequent feeds but, even on this, prolonged OGTT/MM demonstrated persisting PPHH. On follow-up 1 patient spontaneously grew out of the condition.

Figure 2. *Patients who continued on medication.* ***2A.-*** *Follow-up of patient managed with acarbose (Patient 5).* ***2B.-*** *Patient managed with diazoxide (Patient 3).*

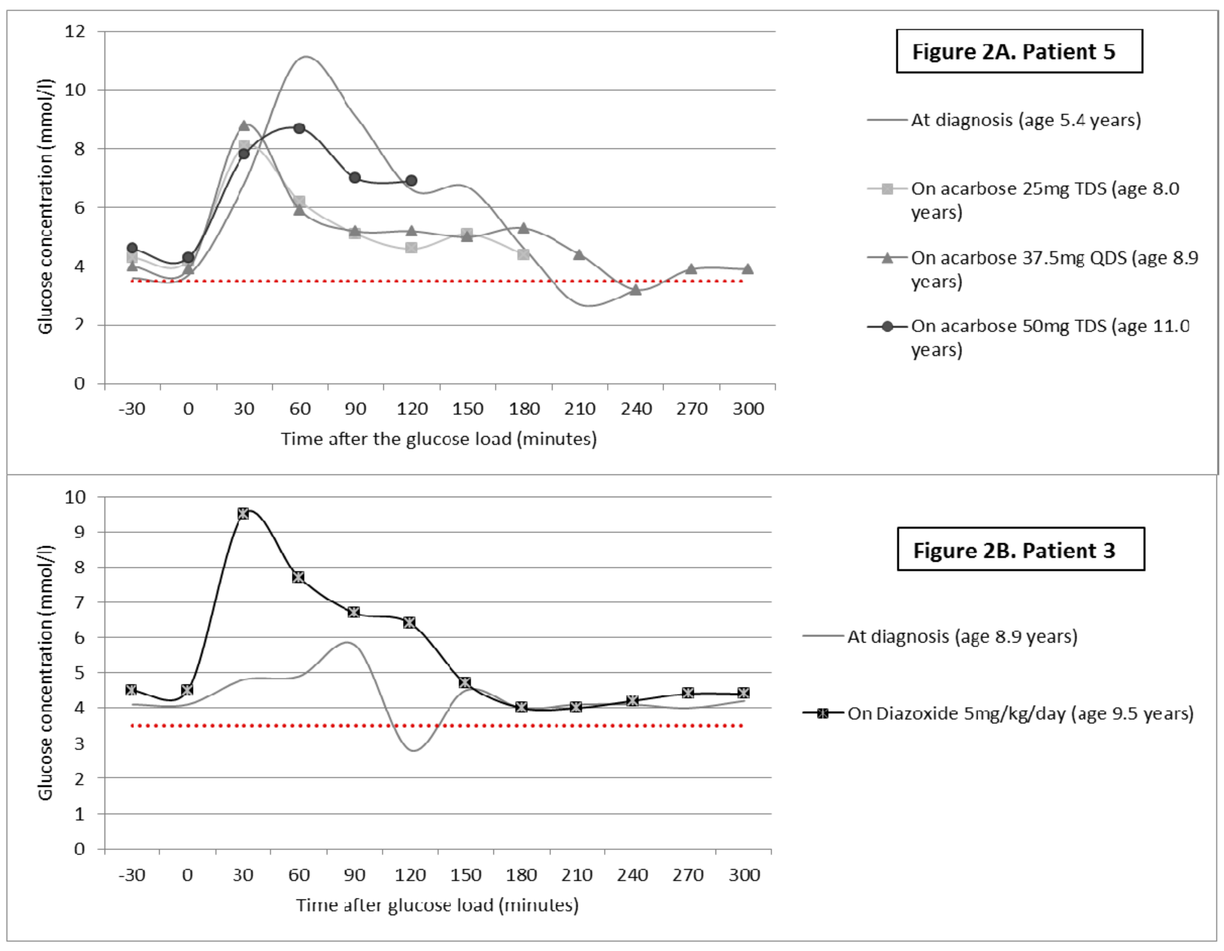
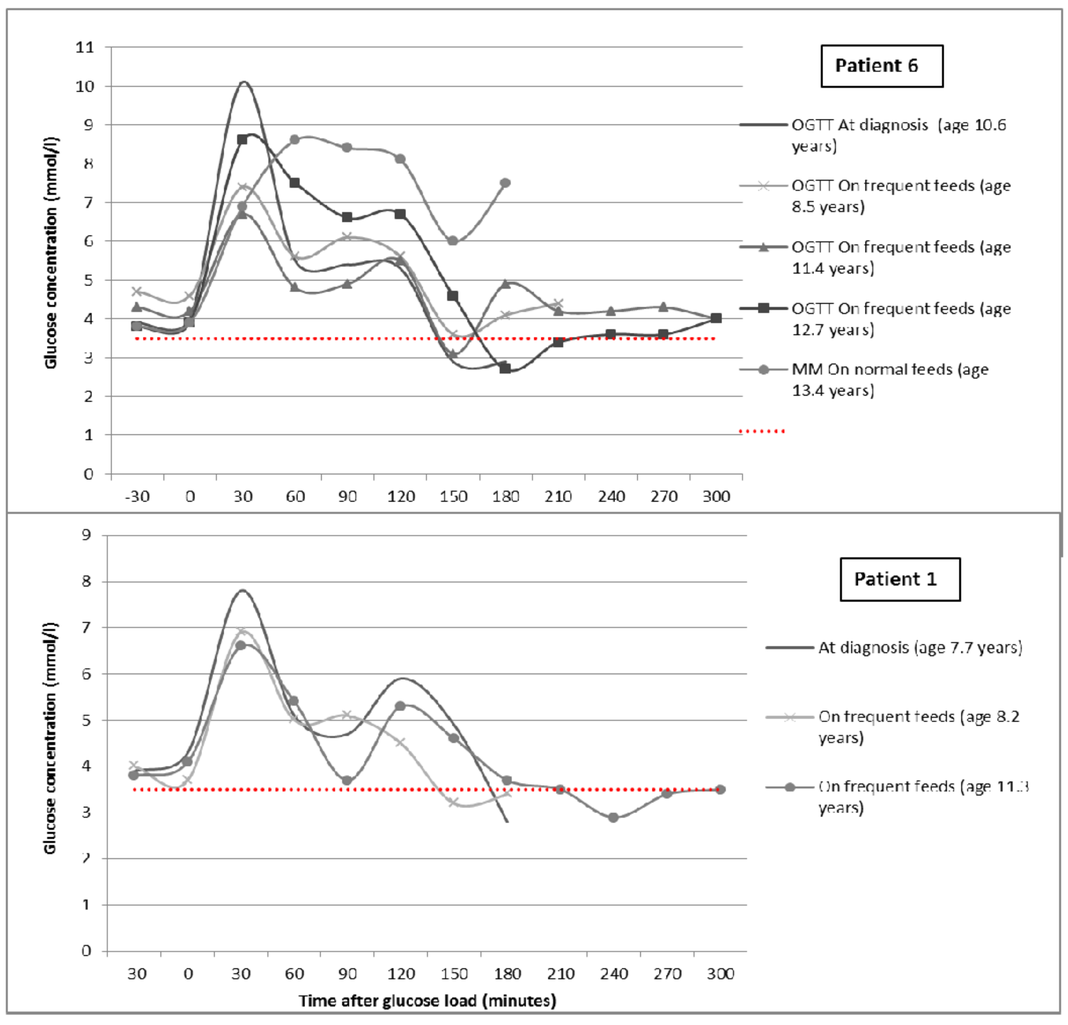


Figure 3. *Patients managed on frequent feeds (Patient 1 and Patient 6).*



Conclusion

The identification of hypoglycaemia in PPHH requires a prolonged OGTT. Acarbose was beneficial in children with PPHH, although it may be poorly tolerated. Hypoglycaemia persisted on prolonged OGTT in those patients managed exclusively on frequent feeds. The cause of the PPHH in these patients still needs to be elucidated.

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