

Clinical Features of Patients with Transient Hyperinsulinemic Hypoglycaemia in a Reference Centre for the Management of Congenital Hyperinsulinism

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Background:

Transient Hyperinsulinemic Hypoglycaemia (THH) occurs during the neonatal period. It is commonly associated with adverse perinatal factors such as infant of diabetic mother, foetal hypoxia or small for gestational age (SGA), but may also be associated with syndromes such as Beckwith syndrome. There is no precise definition for the duration of THH. Patients who had HH of infancy and required treatment at their 2nd birthday were arbitrarily considered to have persistent disease.

Objective:

Present the features of patients with THH and its duration in a reference centre for hyperinsulinemic hypoglycemia (HH).

Methods:

A retrospective study of all patients with THH at Alder Hey Children Hospital from March 2009 to November 2015 had their records examined to identify risk factors, medications used and duration of treatment.

Results:

There were 87 patients (59 males). There were 10 risk factors identified (Table 1). Twenty seven of 87 patients (31%) were born preterm. 10/27 of the preterm infants (37%) and 15/60 of term infants (25%) were SGA. Two preterm (7%) and 2 term (3%) infants had Beckwith syndrome. Three patients (3.5%) with confirmed hyperinsulinism resolved without medical treatment. Table 2 gives the number of patients and the attendant risk factors, drugs used and duration of treatment.

Conclusion:

Nearly 30% of term infants have no identifiable risk factor known to activate events responsible for uncontrolled insulin release. Males appear to be at greater risk of THH. Half the preterm infants had at least three risk factors.



Recognised risk factors
Prematurity
Hypoxia
Abnormal CTG
Foetal tachycardia
Foetal bradycardia
Low pH on foetal blood sampling
Meconium stained amniotic fluid
Maternal medications
Small for gestational age
Diabetic mother
Maternal hypertension

Table 1

		Preterm (n)	%	Term (n)	%
Risk Factors	0 RF	0	0	17	29
	1 RF	8	30	19	33
	2 RF	6	22	14	24
	3+ RF	13	48	8	14
Treatments	None	0	0	3	5
	G	1	4	1	2
	D,C	16	59	24	40
	D,C,G	10	37	32	53
Age to off treatment (days)	Median	170		173	
	Range	16-288		17-616	

Table 2 – RF, risk factors. G, glucagon. D, diazoxide. C, chlorthiazide.



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