

Rapid Biochemical Evaluation Aids Timely Management of Congenital Hyperinsulinism

Alder Hey Children's
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INTRODUCTION

Congenital Hyperinsulinism (CHI) is the commonest cause of persistent neonatal hypoglycaemia and is characterised by inappropriately detectable plasma insulin during hypoglycaemia. Management depends on the timely analysis of biochemical parameters, which would help initiate appropriate management and avoid potential neurological compromise. The technical difficulties in sending the appropriate sample and the delay in processing the sample in the lab sometimes contribute to the delay in diagnosis of CHI.

AIM

To identify the benefit of rapid biochemical evaluation of plasma insulin and ketones in establishing a diagnosis of CHI.

METHOD

The hospital database of 50 CHI patients who were managed over the last 12 months in the quaternary centre of congenital hyperinsulinism was analysed. Blood samples were obtained during controlled hypoglycaemia (blood glucose < 3mmol/l) for evaluation of plasma insulin, 3-beta hydroxy butyrate, free fatty acids, cortisol and lab glucose. The time interval between blood sampling and diagnosis of CHI was determined.

RESULTS

Demographics

Population	N=33
Male: Female	20: 13
Age (median)	7days

Time taken

Between screen and diagnosis of CHI	1 day (0-5 days) <ul style="list-style-type: none">• 70% confirmed in 2 days• 90.9% confirmed within 3 days
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CONCLUSION

The diagnosis of CHI was confirmed within 2 days in majority of the patients who underwent hypoglycaemia screen. It is important to analyse the lab samples for plasma insulin and ketones as an urgent facility in infants where there is a strong suspicion of CHI. This would aid prompt initiation of treatment for CHI.



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