

# Case report : A neonate with prolonged hypoglycemia

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## INTRODUCTION

Transient hyperinsulinism (HI) is a condition characterized by high insulin level, low FFA level in a context of severe hypoglycemia in neonate. Our objective is to present a case of a transient hypoglycemia in a newborn. Evaluation and management of this condition is discussed.

## CASE PRESENTATION

A 14days old term baby was diagnosed with bilateral bronchopneumonia. He received antibiotics and nasal drop. On day7, when the baby was about to be discharged, he developed respiratory distress, hypotonia, cyanosis and the mother claimed the baby was not sucking well since morning. The checked BG level (finger prick) was 20mg/dl (1.11mmol/l). We thought about hypoglycemic episode secondary to insufficient food intake. During 48hours, hypoglycemic episodes continued despite increased GIR, boluses with 10%dextrose and full feeds via nasogastric tube. Hence, he was diagnosed as a case of prolonged hypoglycemia. BG was maintained on GIR of 7.9 mg/kg/min. Serum insulin level was high 7.9  $\mu$ U/ml ( $>2\mu$ U/ml) with corresponding BG of 28 mg/dl (1.55mmol/l), low FFA 0,233 mmol/l ( $<1,5$ mmol/l), negative urine ketones, good response of the GH, C-peptide and cortisol were not done because of financial issues. We would have expected to have a low insulin and high FFA levels in response to hypoglycemia but we got the contrary. We concluded that it is a case of transient neonatal HI.

## CONCLUSION

We believe that our patient had a transient hypoglycemia secondary to transient HI. His blood sugars were under control with the help of increased continuous infusion of glucose, 10% dextrose boluses and feedings. HI is defined as persistent hypoglycemia despite glucose requirement of  $\geq 8$ mg/Kg/min <sup>(1)</sup>. It is the most common cause of transient and permanent disorders of hypoglycemia <sup>(2)</sup>. The causes of transient HI are mostly found in IDM, IUGR, perinatal asphyxia, sepsis. Genetic disorders are more present in persistent HI <sup>(1)</sup>. Investigations: Blood sample (**critical sample**) to detect insulin levels should be drawn at the time of low BG. The diagnosis is made on this findings: Hyperinsulinemia (plasma insulin  $>2\mu$ U/ml), Hypofattyacidemia (p.FFA  $<1,5$ mmol/l), hypoketonemia (BOHB  $<2$ mmol/l), inappropriate glycemic response to glucagon 1mg with rise in BG  $>40$ mg/dl (2.22mmol/l), increased of GH and cortisol levels in response to hypoglycemia. High glucose requirement may support the diagnosis particularly when an insulin level is not available <sup>(1)</sup>. Conclusion: Signs of hypoglycemia are neither sensitive nor specific. Any baby that is unwell or who has signs that cannot be readily explained should have their BGL checked. Always look for the etiology of hypoglycemia and treat it.

## KEYWORDS

Neonatal Hypoglycemia, Hyperinsulinism (HI), Free Fatty Acid (FFA). IDM (Infant of Diabetic Mother), IUGR (Intrauterine growth Restriction), BG (Blood Glucose)

## REFERENCES

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