Diabetes Mellitus in Infancy

Diabetes mellitus is not rare in childhood, but onset in infancy is not common and diagnosis may be missed. We encountered a boy 3 months and 7 days old, weighing 4.6 kg, who presented with fever and breathlessness for two days, without associated diarrhea or vomiting. There was no family history of diabetes mellitus. On examination he was stuporous with severe dehydration, tachycardia, tachypnea and acidotic breathing. He had abdominal distention with palpable liver (2 cm) and spleen (2 cm); respiratory examination revealed no foreign sounds. Level of consciousness deteriorated further within few hours and the child became comatose.

He had a total white cell count of 11,700/cu mm, blood glucose of 782 mg/dl and urine sugar 4+ with ketonuria. CSF examination revealed protein 70 mg/dl, glucose 374.0 mg/dl with 18 cells/HPF. The child was treated with intravenous fluids, plain insulin, and antibiotics. He developed tonic spasms after 3-4 hrs of starting insulin, so mannitol was added to combat cerebral edema. The child improved and was fully conscious within about 20 hrs of therapy. He had two episodes of hypoglycemia on 4th and 5th day of therapy with blood glucose less than 50 mg/dl. Before discharge he was stabilized on mixture of plain and lente insulin.

Although rare under two years of age, childhood diabetes has been reported at the age of 9 days (1). Onset in infancy is always acute, presenting in coma or precoma. Early onset is reported to be associated with a high prevalence of diabetes in the family, predominance of males, an apparent increase in susceptibility to recurrent and severe episodes of hypoglycaemia, particularly with infection and few episodes of ketoacidosis (2). The very high incidence of severe hypoglycaemia is probably due to an inability to make small changes in insulin dose as needed and the child's inability to recognize and report early symptoms of hypoglycaemia rather than abnormalities in glucagon counter regulation (2). A very tight control of blood glucose may, therefore, be undesirable during this age.

After initial control of symptoms with insulin, remission may occur for a few weeks to months before total insulin dependence is established. During this period, hypoglycaemia can occur even on small doses. Treatment should be aimed at keeping the urine free of ketone bodies and mandatory blood sugars (self home glucose monitoring) frequently to avoid hypoglycemic reactions.
As genetic factors are important in young diabetics, the siblings should have a monthly check up of urine sugar and also when ill with infection. Such sibling should be warned against obesity(l).

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REFERENCES