Save the Infants from Hypoglycaemia

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A Hypoglycaemia is a symptomatic condition, association of an abnormally low blood glucose level with a variety of signs in neonatal period especially among low birth weight baby and small for date infants.

Hypoglycaemia is significant when the concentration of glucose or true sugar in the blood is below 40 mgm/100 ml in the infant whether or not clinical manifestations are present. In the full sized newborn, levels of blood glucose lower than 50 mgm/60 ml during the first 72 hours of life and less than 49 mgm/100 ml thereafter are considered abnormally low.

In the low birth weight neonate values lower than 20 mgm/100 ml are significant.

The clinical manifestations in Hypoglycaemia may be associated with one or more of the following: listlessness, apathy, irritability, pallor, sweating, weakness, hunger, headache, visual disturbances, mental confusion, coma, convulsions, and consequently death.

Classifications—

Once the diagnosis of Hypoglycaemia has been established, the cause of the low blood sugar level must be ascertained because the type of treatment and its efficacy depend on understanding of the pathogenesis.

Previous investigations have suggested a variety of classifications of these disorders.

1. ENDOCRINE

A. Deficiencies

1. Growth hormone.
2. Thyroid.
3. Corticosteroid
   (a) congenital adrenal hypoplasia.
   (b) Addison’s disease (atrophy or destruction)
4. Epinephrine.
5. Glycogen.

B. Excess
1. Insulin
   (a) Infants of diabetic mother.
   (b) Islet cell adenoma.
   (c) Hyperplasia of beta cells.
   (d) Prediabetic diabetes.

II. METABOLIC

A. Hereditary
1. Glycogen storage disease.
2. Galactose intolerance.
3. Fructose intolerance.
5. Cystinosis.

B. Acquired
1. Fatty degeneration of liver.
2. Hepatitis.
   (a) Kwashiorkor.
   (b) low phenylalanine diet.

Poisoning or toxic
1. Alcohol.
2. Salicylate.
3. Oral hypoglycaemic agents.
4. Insulin
5. Tamoxifen vomiting sickness.

III. MISCELLANEOUS

A. Tumors
1. Fibro sarcoma.
2. Wilms’ tumors.
3. Islet cell tumors.
4. Hepatomas.

B. Central Nervous system
1. Tumors.
2. Thalamic lesions.
3. Haemorrhage.

C. Cold injury.

D. Renal glycosuria.

IV. IDIOPATHIC

1. Transient in neonate.
2. Leucine sensitive.
3. Familial.
4. Lack of epinephrine response?
5. Sporadic Keto.
6. Unknown.

Many of the possibilities listed above can be eliminated by a careful history and physical examinations. The history should detail the character of the signs and symptoms.

Treatment of Hypoglycaemia

Any acute symptomatic hypoglycaemia episode must be terminated as soon as possible. The prompt and rapid administration of 50 per cent. glucose in water intravenously (1 to 2 ml per kg) continued with the infusion of 10 to 15 percent glucose (0.5 to 1.0 gm/kg/hr) may result in rapid subsidence of symptoms. Thereafter if blood glucose levels are stabilized at normal or greater than normal levels for 6 to 12 hours, the rate and concentration of glucose administration may be reduced over a 6 hour period while feedings are resumed.

If symptoms are of short duration, the response to therapy may be dramatic and prompt.

On the other hand, if hypoglycaemia has persisted for 12 to 24 hours or longer, the response to treatment may be slow and therapy must be continued for several days.

If blood glucose cannot be stabilised within 12 to 24 hours at the rate of administration cited above, A C T H or cortisone will be more useful choice of drugs.

Feeding regime for hypoglycaemia

Any enteralis with a blood sugar less than 20 mgm% on or after the 2nd day will be fed on this regime—

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