Diabetes mellitus in infants up to six weeks of age may be classified as transient, permanent or of an undetermined type. A review of the literature shows a total of 55 reported cases of hyperglycemia occurring during the first six weeks of life.

We are describing a newborn infant with an undetermined type of diabetes mellitus for three reasons: 1) this infant manifested a marked hyperglycemia at 32 hrs of age, the earliest occurrence to be reported in the literature; 2) she is only the third diabetic newborn infant in whom serum immunoassayable insulin studies were done; 3) it presents the tragedy of a missed diagnosis of diabetes in a newborn infant.

CASE REPORT

This 2,570 g female infant was born at term to a 17-year-old primiparous mother, who had been treated for syphilis 10 months.

Key-words: B-cells; Diabetes mellitus; Hyperglycemia; Insulin; Islets of Langerhans; Neonatal diabetes mellitus; Pancreas.

Data di arrivo in Redazione 8-1-1973.

INFORME DEL CASO

Se refiere a una niña nacida a término con un peso de 2,570 g, cuya madre de 17 años de edad, primipara, había sido tratada.

previously, and whose serology was still 4+. Baby's serology was lost. The liquor amnii was meconium stained, and the baby was severely depressed at birth. She was difficult to resuscitate, taking 17 min to establish spontaneous respirations. At 30 min of age, she had a severe apneic episode, requiring intubation and positive pressure O₂ to re-establish spontaneous respiration. The baby remained dusky, in severe respiratory distress in 28% O₂ and was limp without Moro or grasp reflexes. The condition gradually worsened and at 32 hrs of age, the baby presented the typical staring look, suggesting CNS bleeding. X-ray of lungs revealed bilateral haziness. I.v. fluids had been started immediately after birth, and she was maintained on 10% glucose approximately 63 ml/kg/24 hrs and was given 7.5% NaHCO₃ by push as necessary at intervals. In addition, she was treated with aqueous penicillin (150,000 U/12 hrs) and kanamycin (15 mg/kg/24 hrs, in two divided doses).

A spinal tap was done, and blood was taken for glucose determination. The spinal fluid was clear. Its glucose content was 466 mg/100 ml and protein was 135 mg/100 ml. The blood glucose was 567 mg/100 ml, CO₂ 16.3 mEq/l, K 6.2 mEq/l (hemolysed specimen) and Na 138 mEq/l. These elevated values were unfortunately at first attributed to the 10% glucose infusion. The baby's condition continued to deteriorate, pupils remained dilated and did not respond to light; she remained unresponsive to stimulation. By 39 hrs of age, the baby seemed slightly more responsive, more active and with less respiratory difficulty. Oral feedings were instituted offering 5 ml of 10% glucose. A repeat blood glucose, however, at this time, was reported as being over 1,000 mg/100 ml. CO₂ was 10.5 mEq/l, K 4.2 mEq/l, Na 136 mEq/l, Cl 105 mEq/l, uric nitrogen 37 mg/100 ml, uric acid 12.7 mg/100 ml.

The i.v. fluids infiltrated, and no further fluids were given by i.v. for 7 hrs. It was finally restarted via a cut-down using 5% glucose. Blood glucose level determined just prior to the start of the i.v. glucose administration was reported as over 1,000 mg/100 ml. At 106 hrs of age, the infant went into cardiac and respiratory arrest, and could not be resuscitated. Pre-mortem urine showed large amounts of glucose and acetone. Blood drawn at this time (1 h prior to death) showed a glucose level of 921 mg/100 ml and no serum acetone. The serum insulin was 284