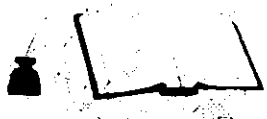
Summary



SUMMARY

Neonatal seizures are a common and serious problem in the neonate especially in the high risk neonates. They can lead to serious long lasting mental deficits. Among high risk neonates are the prematures, infants of diabetic mothers and those with neonatal asphyxia.

The cause of neonatal seizures are numerous. Among the common and preventable causes are alterations in calcium and magnesium metabolism.

This work aimed at studying the calcium and magnesium in the first 3 days of life and factors affecting their metabolism such as, serum inorganic phosphates, parathormone, calcitonin and serum albumin were studied as well.

The study included 30 high risk neonates in addition to 10 healthy full term neonates taken as controls. The group of high risk neonates included: 10 healthy preterm babies, 10 babies suffering from R.D and 10 infants of diabetic mother's (IDM's). The cases were selected from obstetric department and from those admitted to S.C.B.U of Mansoura University Hospital.

Serum levels of magnesium, calcium and factors related to their metabolism i.e., inorganic phosphorus, parathyroid hormone, calcitonin and serum albumin were investigated at 1st and 3rd day of life in atrial to clarify the metabolic disturbances suspected to be met with in those high risk neonates.

In normal full term control babies, the levels of PTH were either undetected or low during 1st 24 hours of life with decrease in Ca level. These levels significantly increase in the 3rd day of life.

Low levels of calcium, magnesium and albumin were found in all high risk neonates in 1st day of life with significant increase in calcitonin, PTH levels in comparison to control group, a significant hyperphosphatemia was found in R.D group in 1st day of life compared to control.

Five cases showed convulsion in 1st day of life two had R.D, three were IDM. There were a highly significant lowering in total serum Ca, ionized Ca, Mg and blood glucose in convulsive cases compared to non-convulsive.

In high risk groups a significant increase in the levels of Ca, Mg, PTH and albumin were noted in the 3rd day of life compared to those of controls.

Ten cases (2 preterm, 3 R.D and 5 IDM's) showed persistance of low calcium levels in the 3rd day of life especially those with convulsions.

No significant difference between cases with seizures and cases without seizures regarding birth weight and gestational age, while apgar score was significantly lower at one and five minutes in cases with seizures.

There was a highly significant positive correlation in all studied groups in 1st day of life between total serum Ca and the following variables (ionized Ca, albumin gestational age and apgar score at one and five minutes). A highly significant negative correlation was found in all groups in 1st day of life between total serum Ca and both inorganic phosphate and calcitonin.