

Electrolyte levels in the CSF of children with nontumoral hydrocephalus - Relation to clinical parameters

Cerda, Maya

Manterola, Alejandro

Ponce, Simon

Basauri, Luciano

The levels of calcium and magnesium (by atomic absorption spectrophotometry), sodium and potassium (by flame photometry), inorganic phosphate and proteins (by spectrophotometry) were measured in the CSF of 27 children with hydrocephalus and compared with the CSF data on 10 controls, so as to study the effect of the blood-brain and blood-CSF barrier alterations observed in hydrocephalus, on the CSF electrolytes. Ca ($P<0.001$), Mg ($P<0.01$) and phosphate ($P<0.05$) were found to be increased, K ($P<0.01$) decreased, and Na levels not significantly altered. Linear regression analysis of hydrocephalic patients showed a linear correlation ($r=+0.62$) between phosphate and proteins ($P<0.01$) and ($r=+0.66$) between phosphate and Ca ($P<0.001$). Comparison of control CSF electrolyte levels with those found in the CSF of hydrocephalic patients were grouped according to clinical variables: sex (F, M), age (<1.5 months, >1.5 months), etiological variants (congenital, acquired), treated infection (no, yes), s