

Isoelectric focusing of cerebrospinal fluid proteins in children with nontumoral hydrocephalus

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The cerebrospinal fluid (CSF) protein patterns of 42 children with nontumoral hydrocephalus, 33% with associated congenital malformations (meningocele, myelomeningocele, spina bifida, monoventricular prosencephalon) were determined by isoelectric focusing and polyacrylamide gel electrophoresis. 50% of the patients showed a barrier damage pattern, 19% showed a degenerative pattern, a block pattern or a normal pattern were less frequently found. 14 children presented hydrocephalus associated with other malformations, 44% of these cases showed a degenerative pattern. Combining results from quantitative polyacrylamide gel electrophoresis and qualitative isoelectric focusing, resulted in better characterization of CSF protein abnormalities, the high resolution capacity of these techniques may give a new approach to the evaluation of the blood CSF barrier in the management of hydrocephalus.