

Oral presentation

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Arachnoid cysts: a diffuse spinal fluid absorption abnormality?

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Background

Cerebrospinal fluid (CSF) homeostasis is quite complex, and does not always present in a diffuse form such as hydrocephalus. In some situations, a focal manifestation of this global circulation abnormality is identified, such as arachnoid cysts (most often in the temporal fossa). These patients with temporal arachnoid cysts develop shunt dependency, as spinal fluid circulation seems to be affected permanently.

Materials and methods

7 patients (ages 4–16 years) were initially treated with craniotomy (2 endoscopic) and cyst fenestration for temporal arachnoid cysts (measuring 4–8 cm. In size), but eventually required a shunt for drainage. Four of these children presented with subdural hemorrhage after rupture of the arachnoid cysts, presenting with signs of increasing intracranial pressure. Despite decreasing cyst size, all the patients developed a form of shunt dependency, requiring shunt revisions for malfunction. Ventricular enlargement was not seen during these episodes, and repeat attempts to fenestrate the cysts were not successful. Multiple shunt revisions (average 4.5) were often required before symptom resolution.

Results

Some patients with diffuse cerebrospinal fluid circulation abnormalities present with focal cystic accumulation of CSF arachnoid cysts, and focal drainage or communication may not be adequate to relieve symptoms. A diffuse spinal fluid absorption abnormality (similar to pseudotu-

mor cerebrii, or *form fruste* of hydrocephalus) may be focally expressed, suggesting another etiology or treatment option might be indicated.

Conclusion

Arachnoid cysts may represent a focal expression of an underlying global cerebrospinal fluid absorption problem.