Large Asymptomatic Arachnoid Cyst With Normal Neurological Examination

Grande Cisto Aracnoide Assintomático Com Exame Neurológico Normal

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ABSTRACT

Arachnoid Cyst (AC) is formed by the division of the arachnoid membrane that contains cerebrospinal fluid. Rarely, patients have neurological symptoms related to the cyst. The case presented is of a large asymptomatic AC. A male child presented large AC on magnetic resonance imaging of the skull, with mass effect on the right hemisphere and midline shift. The child was asymptomatic with normal neurological examination. The chosen treatment was conservative. The decision for surgical treatment is still a matter of debate. Even in the image described with a large AC, the type of treatment remains controversial.

Keywords: Arachnoid cysts; Magnetic resonance imaging; Neurologic examination; Child

RESUMO


Palavras-Chave: Cistos aracnoídeos; Ressonância magnética; Exame neurológico; Criança

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A male child of healthy and non-consanguineous parents was delivered at term (40 weeks) with a weight of 4100 g, height of 49 cm, head circumference of 37 cm, and Apgar 9 and 10 at the first and fifth minutes, respectively, by vaginal delivery. At the age of 6 years, he fell off a playground equipment at school. He underwent computed tomography of the skull, which revealed no traumatic lesions, but a large arachnoid cyst (AC) was noted in the right middle cranial fossa. Until then, the patient presented with no changes in developmental milestones and no history of headache or epilepsy. His neurological examination was normal. Moreover, magnetic resonance imaging of the skull was performed, which revealed a large AC, with a clear mass effect on the right hemisphere, including a midline shift (Figure 1). Furthermore, for better investigation, a neuropsychological study was conducted, and the results indicated an above-average intelligence quotient, with no changes in cognitive, behavioral, or emotional functions. Subsequently, conservative treatment and follow-up with a specialist were decided.

The pathophysiology of ACs remains controversial. Most of these cysts are congenital, but they can also be secondary to trauma or infection. ACs are often incidental findings on imaging studies investigating head trauma, seizures, and developmental delay. Most of them located in the middle fossa and more commonly occurring in males\textsuperscript{1,2}.

ACs were classified by Galassi in 1982 according to their size, as follows: 1) type I: small ACs located anterior to the middle cranial fossa; 2) type II: ACs located along the Sylvian fissure and displacing the temporal lobe; 3) type III: large ACs occupying the

![Figure 1. Magnetic Resonance Imaging (MRI): A. Axial T1. B. Axial T2. C. Axial FLAIR. D. Coronal FLAIR. Coronal fluid-attenuated inversion recovery (FLAIR) showing a large arachnoid cyst (white arrow) on the right, with displacement of the frontal, temporal, and parietal lobes, resulting in midline shift (white arrowhead).]
entire middle cranial fossa and displacing the temporal, parietal, and frontal lobes. For Galassi type I ACs, the treatment is usually conservative, whereas for type II and III ACs, the ideal treatment is very controversial\[2,3\].

In such cases, surgery may be considered in patients with headache, seizures, developmental delay, and neurological deficits, especially hydrocephalus with signs of intracranial hypertension\[1\]. However, the correlation of these symptoms with the presence of the cyst (including Galassi type III cysts) is still questionable. Even in the investigation of epilepsy, electroencephalograms do not show a reliable correlation between seizures and the location of the cyst. In addition, a neuropsychological study can be performed to decide the treatment of cases of large cysts\[2,4\]. Therefore, as reported in this case, the treatment of large ACs of the Sylvian fissure remains a challenge, especially in asymptomatic cases.

REFERENCES


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