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Video Abstract

Pure endoscopic management of a middle fossa Galassi III arachnoid cyst

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ABSTRACT

Background: Microsurgical and endoscopic approaches are accepted alternatives for the management of symptomatic arachnoid cyst. However, given their ability to visualize critical neurovascular structures with less morbidity, less dissection needs, and high success rates, endoscopic approaches are excellent options for the management of this pathology.

Case Description: We present the case of an otherwise healthy 8-year-old male who presented with a chronic history of disabling headache that augmented with exercise and interrupted his sleep. He had a normal neurological examination. Neuroimaging studies depicted a right middle fossa Galassi III arachnoid cyst with no associated hydrocephalus, marked displacement of adjacent cortex, and apparent connection with the basal cisterns. Given the severity of the symptoms, and the size and compressive effect of the arachnoid cyst, surgical management through and endoscopic approach was undertaken. We performed a right temporal burr hole, right above the zygomatic arch to avoid vessels of the Sylvian fissure and to allow an optimal trajectory to the medial edge of the cyst and the target cisterns. We proceeded to identify the endoscopic anatomy of the surrounding structures to perform and adequate fenestration of multiple arachnoid membranes, obtaining an adequate cystocisternal communication. We then performed closure in a standard fashion. The patient was neurologically unchanged after the procedure and was discharged on postoperative day 2. The postoperative images revealed a dramatic reduction in the cyst dimensions with resolution of its compressive effect.

Conclusion: Endoscopic management of arachnoid cyst offers several advantages such as the visualization of the cyst boundaries and critical adjacent structures, and the need for a less extensive dissection having a success rate between 83% and 92%. It is important to perform a wide multifocal fenestration as a key step to avoid cyst reclosure.

Keywords: Endoscopic, Arachnoyd cyst, Pediatric

[Video 1]-Available on:
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Annotations[1-6]

1. 00:00–00:22 – Clinical presentation
2. 00:22–00:37 – Preoperative imaging
3. 00:37–00:51 – Rationale of treatment
4. 00:51–1:51 – Patient positioning and procedure explanation
5. 1:51–2:35 – Endoscopic middle fossa anatomy description
6. 2:35–5:15 – Procedure video

7. 5:15–5:30 – Postoperative imaging and outcome
8. 5:30 – Discussion.

Declaration of patient consent

Patient's consent not required as patient identity is not disclosed or compromised.

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None.

Conflicts of interest

There are no conflicts of interest.

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