Posterior fossa arachnoid cyst

Posterior fossa intracranial arachnoid cyst or infratentorial arachnoid cyst are classified into supracerebellar arachnoid cyst, infracerebellar, hemispheric, clivus,

Cerebellopontine angle arachnoid cyst

Cerebellopontine angle arachnoid cyst.

Cisterna magna arachnoid cyst

Cisterna magna arachnoid cyst.

Fourth ventricle arachnoid cyst

Fourth ventricle arachnoid cyst.

Clinical features

Supratentorial arachnoid cysts are usually asymptomatic and may be discovered by chance at autopsy; however, infratentorial arachnoid cysts, which correspond to liquid forms enclosed by an arachnoid sheet but whose pathogenesis is unknown, might cause symptoms.

Differential diagnosis

Posterior fossa neuroglial cyst.

Treatment

Endoscopic Neurosurgery is currently recommended as the first choice to treat posterior fossa arachnoid cysts. It has proven to be effective, providing improved outcome, and safe, having a low complication rate. Compared to craniotomy and shunt placement, it has lower surgical morbidity, minimizing or avoiding risks of subdural fluid collections, shunt infection, malfunction, overdrainage, and dependence. Usually, rigid scopes maneuvered through a suboccipital approach are used. When symptomatic obstructive hydrocephalus develops, CSF diversion is the first aim of surgery.

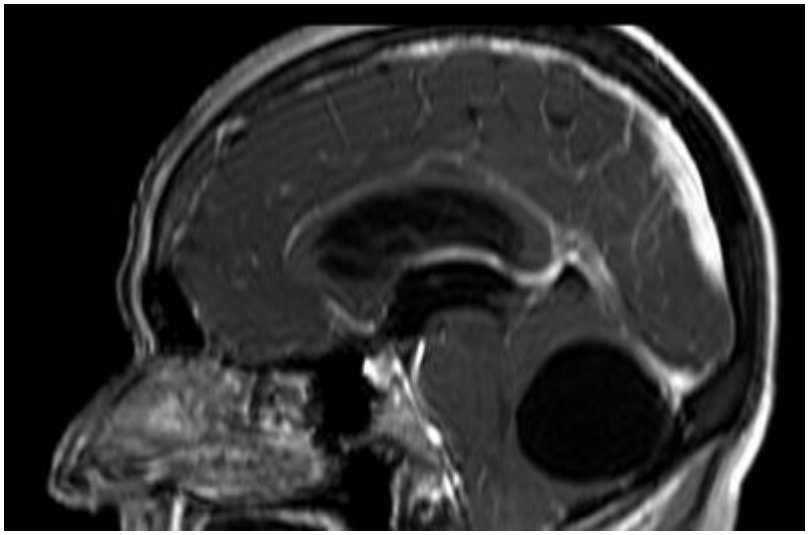
In these patients, a flexible endoscope introduced through a frontal burr hole allows not only immediate and efficient management of hydrocephalus with endoscopic third ventriculostomy, but in

selected cases also direct cyst inspection and fenestration. Navigation of an enlarged cerebral aqueduct is actually safe when performed by experienced neurosurgeons.

This minimally invasive technique gives the possibility of performing both endoscopic third-ventriculostomy and cyst fenestration, which alone may not be enough to efficiently treat hydrocephalus [1].

Case reports

Verghese et al. report an Posterior fossa arachnoid cyst that caused Painful tic convulsif (PTC) in a 50-year-old woman. Her radiological evaluation revealed a median, well-circumscribed, cystic lesion of the posterior fossa suggestive of arachnoid cyst, pushing the cerebellum and brainstem anteriorly. Midline suboccipital craniotomy and marsupialization of cyst was performed with complete recovery of symptoms. This is the first report of a retrocerebellar arachnoid cyst causing PTC [2].



A lesion of 41 x 46 x 52 mm centered in the left cerebellar hemisphere, with thin walls, homogeneous cystic interior signal, absence of a solid mass, nodule or enhancement after contrast administration, no restricted diffusion or signal alterations in the adjacent parenchyma. The lesion exerts mass effect on the IV ventricle with ventriculomegaly and a periventricular signal alteration suggesting hydrocephalus and transependymal edema. There is descent of the cerebellar tonsils below the foramen magnum about 15 mm, decrease of the subarachnoid space and ectasia of the nerve sheath due to intracranial hypertension. Collapsed cisterna ambiens due to transtentorial herniation.

In prone position. Head fixed to Mayfield. Left paramedian incision with craniotomy from under the transverse sinus to Foramen Magnum. Linear durotomy respecting cyst walls. Extraction of 2cc of CSF prior to opening. A capsule fragment is removed from the cyst for AP analysis. Opening of the cyst whose content is similar to CSF (clear-transparent). Inspection of the interior of the cyst with an endoscope without visualizing suspicious tumor nodules. The cyst is communicated with the cisterna magna with decompression of the cerebellum and cerebellar tonsil that appears descending below the foramen magnum. Tachosil reinforced the Water-tight dural closure. Bone flap replacement with

trephine plate.

1)
Feletti A, Alicandri-Ciufelli M, Pavesi G. Transaqueductal trans-Magendie fenestration of arachnoid cyst in the posterior fossa. Acta Neurochir (Wien). 2016 Apr;158(4):655-62. doi: 10.1007/s00701-016-2734-3. Epub 2016 Feb 17. PubMed PMID: 26883551.
2)
Verghese J, Mahore A, Goel A. Arachnoid cyst associated with painful tic convulsif. J Clin Neurosci. 2012 May;19(5):763-4. doi: 10.1016/j.jocn.2011.07.039. Epub 2012 Feb 8. PubMed PMID: 22321360.