Third ventricular ependymoma

see Third ventricular tumor

see Intraventricular ependymoma.

see also Third Ventricular Subependymoma

- Diagnostic dilemma: Papillary third ventricular neoplasm with concurrent choroid plexus and ependymal features in a cat
- Arterial Spin-Labeling Perfusion Lightbulb Sign: An Imaging Biomarker of Pediatric Posterior Fossa Hemangioblastoma
- Neurosurgical application of pineal region tumor resection with 3D 4K exoscopy via infratentorial approach: a retrospective cohort study
- Stereotactic radiotherapy outcomes for intraventricular brain tumours in 11 dogs
- Placement of EVD in pediatric posterior fossa tumors: safe and efficient or old-fashioned? The Vienna experience
- Third Ventricular Subependymomas: Clinical Features and Outcomes Over Two Decades
- Balloon-Assisted Corpus Callosotomy. Reducing the Impact of Transcallosal Approaches
- Lateral Horizontal Head Position Approach for the Lateral and Anterior Third Ventricles: A Subependymoma Clinical Case and Literature Review

Ependymomas are the third most common primary third ventricular tumor found in children [1].

Although the ependymal surface area of the third ventricle is larger than that of the fourth ventricle, ependymomas are much more common in the posterior fossa.

In cases of third ventricle ependymomas, patients may present with vertigo and Parinaud syndrome.

Case series

Four cases of these tumors are reported. The presenting symptoms included headache, ataxia, vertigo, and Parinaud's syndrome. All the patients underwent computed tomographic scanning and cerebral angiography, followed by craniotomy and microsurgical resection of the tumor. In addition, all patients had or developed symptomatic obstructive hydrocephalus requiring shunting procedures. Three of the patients are alive with a follow-up of 4 to 12 years. It is remarkable that these tumors are so rare, given that the ependymal surface area of the third ventricle is greater than that of the fourth. The management of these tumors should include aggressive surgical resection, radiation therapy, and cerebrospinal fluid diversion [2]

Case reports

A case of giant cell ependymoma of the third ventricle occurring in a previously healthy 7 year old girl. The morphological features, immunohistochemical findings and ultrastructural features are discussed. As this ependymal subtype is not widely known, it may be confused with several other tumours including: pleomorphic xanthoastrocytoma, subependymal giant cell astrocytoma, giant cell

glioblastoma and atypical teratoid/rhabdoid tumour (ATRT). The differential diagnosis is discussed as confusion with these other entities may have significant treatment and prognostic implications making recognition of this rare ependymoma subtype vital [3].

Feletti et al, report a case of an intracranial ependymoma of the posterior third ventricle that was endoscopically removed just by aspiration through a flexible scope. Histologically, beside the typical pattern of growth with perivascular pseudorosettes, the tumor featured hypercellular areas with more than 10 mitoses per 10 high-power fields, consistent with grade III-anaplastic tumor. A few months later, a second neuroendoscopy offered the unique chance to appreciate the total absence of tumor tissue and the restored anatomy. However, consistently with the high grade, the tumor recurred in two different locations including the endoscopic trajectory, and spread through the cerebrospinal fluid. The patient underwent a second resective surgery and radiosurgery. Despite a cycle of chemotherapy, multiple lesions both in the ventricular system and at the level of cauda equina appeared 12 months later [4].

1)
Cage TA, Clark AJ, Aranda D, Gupta N, Sun PP, Parsa AT, Auguste KI. A systematic review of treatment outcomes in pediatric patients with intracranial ependymomas. J Neurosurg Pediatr. 2013 Jun;11(6):673-81. doi: 10.3171/2013.2.PEDS12345. Epub 2013 Mar 29. PMID: 23540528.
2)
Oppenheim JS, Strauss RC, Mormino J, Sachdev VP, Rothman AS. Ependymomas of the third ventricle. Neurosurgery. 1994 Feb;34(2):350-2; discussion 352-3. doi: 10.1227/00006123-199402000-00020. PMID: 8177398.
3)
https://www.sciencedirect.com/science/article/abs/pii/S0031302516304706
4)
Feletti A, Marton E, Bendini M, Zanatta L, Valori L, Dei Tos AP, Di Paola F, Longatti P, Rossi S. Anaplastic ependymoma of the third ventricle. Brain Tumor Pathol. 2014 Mar 19. [Epub ahead of print] PubMed PMID: 24643478.