Obstructive hydrocephalus from posterior fossa tumor treatment

- Volumetric predictors for shunt-dependency in pediatric posterior fossa tumors
- Endocrine Comorbidities in Survivors of Childhood Brain Tumors: Insights from the Slovenian National Cohort
- Preventing What Matters: A Fast and Reliable Technique to Secure External Ventricular Drains and Avoid Dislodgement
- Cerebellar Mutism/Posterior Fossa Syndrome Following Resection of Posterior Fossa Tumor in Pediatric Patients: Assessing Pathophysiology, Risk Factors, and Neuroradiographic Features
- Assessment of Clinical and Neurological Alterations Before Radiation Therapy in Children With Malignant Brain Tumours
- Mature hyperdense teratomas in the posterior fossa
- Evidence of supratentorial white matter injury prior to treatment in children with posterior fossa tumors using diffusion MRI
- Upfront frameless hypofractionated gamma knife radiosurgery for large posterior Fossa metastases

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Hydrocephalus associated with posterior fossa tumor affects the quality of life of patients with such lesions. Routine preoperative CSF diversion is not necessary for the vast majority of patients with posterior fossa tumor-related hydrocephalus. A high index of suspicion and aggressive surveillance is required for the early identification and appropriate management of postresection hydrocephalus [1)]

Ommaya reservoir can produce good results through simple surgical procedures for the treatment of acute hydrocephalus in children with posterior fossa tumors and is associated with less trauma and complications [2)].

Schmid and Seiler employed a high dose of steroids after diagnosis; a frontal ventricular catheter with a subcutaneous fluid reservoir (Rickham) was inserted within 2 to 5 days; a temporary external ventricular drainage system was attached to the reservoir if, despite the steroids, intracranial pressure was over 30 cm H2O; and tumor excision was performed within 5 days to reopen the cerebrospinal fluid (CSF) pathways. In view of the wide range of potential complications, it was decided not to use a shunt before craniotomy. A shunt was inserted only if the CSF pathways remained obstructed after tumor removal. With this regimen, 93% of all patients (100% of the adults and 83% of the children) were shunt-free after the operation, without fatal complications. The infection rate was 4.9%. It was concluded that the severity of symptoms of raised intracranial pressure from hydrocephalus, the intraventricular pressure, and the size or location of the tumor prior to surgery do not have prognostic value as to which patients will require a shunt after surgery [3)].

1)

Muthukumar N. Hydrocephalus Associated with Posterior Fossa Tumors: How to Manage Effectively? Neurol India. 2021 Nov-Dec;69(Supplement):S342-S349. doi: 10.4103/0028-3886.332260. PMID:

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2)

Ji W, Liang P, Zhou Y, Li L, Zhai X, Xia Z. [Management of obstructive hydrocephalus before posterior fossa tumor resection in children]. Nan Fang Yi Ke Da Xue Xue Bao. 2013 Nov;33(11):1696-8. Chinese. PMID: 24273282.
3)

Schmid UD, Seiler RW. Management of obstructive hydrocephalus secondary to posterior fossa tumors by steroids and subcutaneous ventricular catheter reservoir. J Neurosurg. 1986 Nov;65(5):649-53. doi: 10.3171/jns.1986.65.5.0649. PMID: 3772453.