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**Synchronous neuroendoscopic and microsurgical resection of 3rd ventricle craniopharyngioma**

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**Introduction:** Surgical resection of craniopharyngiomas may be challenging sometimes because of the size, location and tenacity. Most pediatric craniopharyngiomas can be heterogeneous in consistency, with coexisting cystic and solid components. The tumours, solid and cystic, can be quite large with an associated hydrocephalus. The authors present a novel technique combining endoscopic ventricular surgery with microsurgery to facilitate the resection of selected craniopharyngiomas in children.

**Method:** A 17 year old boy presenting papilledema was admitted. The MRI showed a large partially calcified suprasellar tumor and the cystic part in the third ventricle causing a hypertensive hydrocephalus. A combined ventricular endoscopic and microsurgical approach was chosen. By pure neuroendoscopy through the frontal horn the cyst wall was opened. Machine oil like fluid was evacuated and the CSF pathway restored. In the second step through a pterional approach the microsurgical resection of the solid tumor and cyst remnants was performed.

**Results:** By the endoscopic procedure the intracranial hypertension was lowered. During the pterional approach the microsurgical removal was easier because the brain was nicely relaxed. Postoperatively, the boy developed a transient diabetes insipidus and bitemporal hemianopsia for 3 months. The MRI showed complete resection of the craniopharyngioma and no hydrocephalus. No tumour recurrence is present on surveillance imaging at 2 years.

**Conclusions:** In children, selected large complex craniopharyngiomas can be treated with combined endoscopic and microsurgical approaches. neuroendoscopy can complement microsurgery in the resection of complex craniopharyngiomas, particularly those that extend into the ventricular system. Synchronous endoscopy and microsurgery can be helpful for managing the hydrocephalus which frequently accompanies those lesions.