The role of transventricular neuroendoscopy in the management of brain tumor related hydrocephalus in a pediatric population.

In the last decade neuroendoscopy has been increasingly used in the management of intraventricular tumors (lateral and third ventricle) for resolution of mass effect on the visual pathway and control of hydrocephalus. Neuroendoscopy shows great versatility in every intraventricular cystic or solid lesions associated to hydrocephalus. The same procedure can be used for controlling hydrocephalus associated with posterior fossa tumor. We use neuroendoscopy for biopsy sampling of ventricle lesions too, and we consider it an efficient, simple an with low risk procedure. We adopt this treatment in all patients with signs and symptoms of hydrocephalus (headache, vomiting, and diplopia) due to obstruction of the cerebral aqueduct (pineal tumor) as well.

In patients with hydrocephalus caused by posterior fossa tumor we prefer to perform as first step an endoscopic third ventriculostomy, finalized to reduced the acute brain hypertension. Endoscopy can be used alone to achieve gross total removal or marsupialization of cystic tumors, sometimes in association with additional therapies, such as microsurgery, radiosurgery or intracavitary drug administration. The aim of our study is to assess the reliability of neuroendoscopy in the management of hydrocephalus secondray to brain tumor in pediatric population.

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Neuroendoscopy and neuronavigation for the treatment of thalamic cystic tumor

MRI pre-op

MRI post-op