

# Endoscopic – Assisted Microneurosurgery for a Large Pineal Region Tumor

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**Objective/Introduction:** Primary pineal region tumor in pediatric age group is an uncommon disease; however, the diversity of tumor types that can occur in this region due to the variety of tissues present normally was striking. The accurate diagnosis and pathology proof is crucial for patients' prognosis. Our encounter with this patient provides a unique chance to look into the complicating nature of this disease and demonstrates a successful approach that maximizes both intra-operative visual field and excellent post-operative outcomes.

**Study Design:** Case Report

**Subjects and Method:** The subject is a 5 year-old male. We have performed endoscopic tumor biopsy following by main tumor resection using left parieto-occipital interhemispheric approach. The disease time course was constructed starting this April and followed up via regular clinic visits for 4 months as of now.

**Results/Case Presentation:** A previously healthy 5 year-old male presented to the emergency department complaining of worsening headache, dizziness, lethargy, unsteady gait and upward gaze palsy for about 1 week. Brain Image studies showed the presence of a cystic, hemorrhagic pineal tumor with third ventricle involvement and acute hydrocephalus. Endoscopic tumor biopsy was attempted first to establish proper treatment plan. After considering the tumor's location and the patient's unique head/brain anatomy, left parieto-occipital interhemispheric approach with patient in the sitting position was selected for this case. This approach along with

neuroendoscope provided us with direct view from behind the ventricular system. Gross total resection of tumor was achieved and acute hydrocephalus was relieved after the operation. Final pathological diagnosis was confirmed to be immature teratoma. Patient has withstood the whole procedure well and recovered rapidly & smoothly post- operatively.

**Conclusions/Discussions:** the diagnosis and treatment of pineal region tumor is challenging in the field of neurosurgery. Assisted with endoscope, we were able to remove a pineal region tumor completely with adequate surgical view while patient was in the sitting position. The rare operating footages would be kept for future references and education purposes.

**Topic:**

- Spine Vascular Trauma Neurointensive Care Infection  
Peripheral Nerves Tumor Functional Skull Base  
Intraoperative monitoring & imaging Basic neuroscience Hydrocephalus  
Pediatrics Interventional

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