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Video Abstract

Endoscopic-assisted paramedian infratentorial supracerebellar approach for pineal cyst – How I do it Video clip

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ABSTRACT

Background: The endoscopic supracerebellar-infratentorial (SCIT) approach is a viable method to access pathology of the posterior incisura, but a narrow working space and frequent instrument conflict can potentially limit its surgical efficacy. We planned an endoscopic-assisted paramedian infratentorial supracerebellar approach for pineal cyst.

Case Description: Patient was placed in prone position under general anesthesia. His head was rotated to the left side slightly. The location of the transverse sinus was detected with navigation system. A 5 cm linear skin incision was performed, and a 2 cm craniectomy was performed about 2 cm left of the median. The transverse sinus was little bit exposed. Dura was incised in a U-shaped incision with the transverse sinus at the base. The endoscope was advanced along with the culmen. At that time, we observed inferior and superior vermian vein. After reaching to the thick arachnoid near by galenic system, the arachnoid membrane was incised and the CSF was evacuated. After that, the cerebellum became soft and the surgical corridor became large. The arachnoid membrane was incised widely. Pineal cyst, precentral cerebellar vein, bilateral internal occipital vein and great vein of galen were exposed. There were some small veins on the pineal cyst, but the adhesion was not so severe. The cyst was dissected from these small veins. There was no adhesion between the cyst and surrounding brain except for the pineal recess. Bilateral ICV was seen behind the cyst. There was feeding artery and draining vein on the antero-lateral part of the cyst. These vessels were coagulated and cut, then the cyst was removed. After the removal, we confirmed complete removal of the cyst and hemostasis.

Conclusion: Endoscopic-assisted paramedian SCIT approach for pineal cyst in prone position is a reasonable and efficient access for posterior third ventricular lesions. The learning curve, maneuverability in small space, and instrument conflict limit efficacy.

Keywords: Endoscopic assisted, Paramedian, Pineal tumor, Supracerebellar infratentorial

[Video 1]-Available on:
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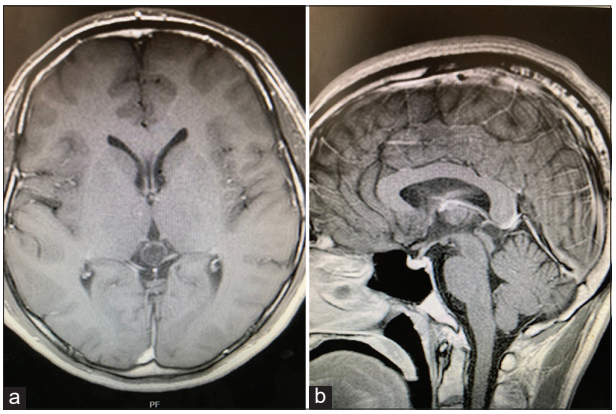

Figure 1: (a) Preoperative axial T1 MR imaging revealing posterior third ventricular lesion. (b) Preoperative sagittal T1 MR imaging revealing posterior third ventricular lesion.

Annotations [Figures 1 and 2]

1) 00:01 - 2 cm craniotomy.
2) 00:14 - Cerebellum was carefully retracted.
3) 00:18 - Arachnoid membrane was incised and CSF evacuated.
4) 00:33 - Surgical corridor became wide.
5) 00:36 - Thick arachnoid was incised to expose pineal cyst and Galenic system.
6) 01:15 - Pineal cyst was exposed and dissected.
7) 02:15 - Pineal cyst removed from pineal recess.

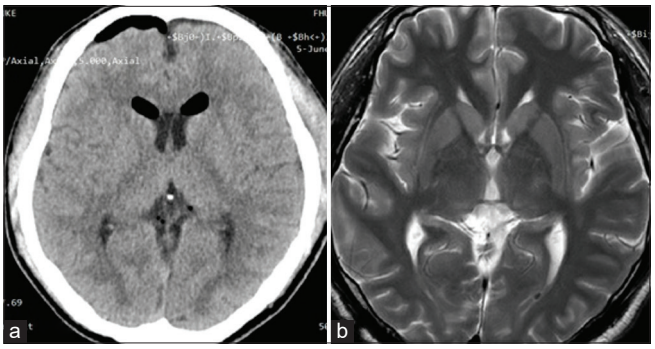

Figure 2: Postoperative (a) noncontrast CT and (b) axial T2 MR imaging revealing complete excision of posterior third ventricular lesion.

Declaration of patient consent

Patient's consent not required as patients identity is not disclosed or compromised.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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