



## Video Abstract

# Endoscopic transventricular approach for the resection of a hemorrhagic cavernous malformation of the tectal plate: Operative video

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Received : 18 January 2023  
Accepted : 24 January 2023  
Published : 03 February 2023

DOI  
[10.25259/SNI\\_57\\_2023](https://doi.org/10.25259/SNI_57_2023)

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## ABSTRACT

**Background:** Cavernomas of the third ventricle are rare entities that provide significant therapeutic challenges. Because of the better view of the surgical field and the possibility to achieve a gross total resection (GTR), microsurgical approaches are more commonly used to target the third ventricle. Endoscopic transventricular approaches (ETVA), on the other hand, are minimally invasive procedures that can afford a straight corridor through the lesion, avoiding bigger craniotomies. Moreover, these approaches have shown lower infectious risks and shorter hospitalization times.

**Case Description:** A 58-year-old female patient accessed the Emergency Department complaining of headache, vomiting, mental confusion, and syncopal episodes for the past 3 days. An urgent brain computed tomography scan revealed a hemorrhagic lesion of the third ventricle, conditioning triventricular hydrocephalus, so an external ventricular drainage (EVD) was placed in an emergency setting. An magnetic resonance imaging (MRI) showed a 10 mm diameter hemorrhagic cavernous malformation originating from the superior tectal plate. An ETVA was performed for the cavernoma resection, followed by an endoscopic third ventriculostomy. After proving shunt independence, the EVD was removed. No clinical nor radiological complications were assisted in the postoperative period, so the patient was discharged 7 days after. The histopathological examination was consistent with cavernous malformation. An immediate postoperative MRI showed GTR of the cavernoma with a little clot around the surgical cavity, which appeared completely reabsorbed 4 months later.

**Conclusion:** ETVA provides a straight corridor to the third ventricle, excellent visualization of the relevant anatomical structures, safe resection of the lesion, and treatment of the concomitant hydrocephalus by ETV.

**Keywords:** Anterior transcortical approach, Cavernous hemangioma, Endoscopic resection, Intraventricular surgery, Tectal plate, Third ventriculostomy

### [Video 1]-Available on:

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### Annotations<sup>[1-3]</sup>

- 1) 0:08 – Case presentation.
- 2) 00:19 – Initial emergency treatment.

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- 3) 0:50 – Preoperative examinations.
- 4) 01:22 – Surgical rationale.
- 5) 01:48 – Surgical planning.
- 6) 02:01 – Neuroendoscopic surgical approach.
- 7) 03:34 – Postoperative course.
- 8) 04:12 – Follow up.
- 9) 04:17 – Keypoints.



**Video 1:** Endoscopic transventricular approach for the resection of a hemorrhagic cavernous malformation of the tectal plate.

#### **Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent.

#### **Financial support and sponsorship**

Nil.

#### **Conflicts of interest**

There are no conflicts of interest.

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**How to cite this article:** Ferlendis L, Capelli S, Bossi B, Barillot C, Veiceschi P, Locatelli D. Endoscopic transventricular approach for the resection of a hemorrhagic cavernous malformation of the tectal plate: Operative video. *Surg Neurol Int* 2023;14:45.

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