Endoscopic trans-orbital approach for the tumor-related epilepsy at the temporal tip

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Minimally invasive surgery is gaining increasing interest in epilepsy surgery. In this video, the authors present the endoscopic transorbital approach for an epileptogenic lesion located at the temporal tip. The patient was a man in his 40s who has had intractable focal impaired awareness seizures and focal to bilateral tonic-clonic seizures since he was 31 years of age. According to the preoperative examination, including stereotactic electroencephalography, a cavernous angioma located at the tip of the right temporal lobe was diagnosed as an epileptogenic lesion. Lesionectomy for this lesion was performed using the endoscopic transorbital approach as minimally invasive surgery and a favorable outcome was achieved.

The video can be found here: https://stream.cadmore.media/r10.3171/2024.4.FOCVID2414
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the periosteum. The periorbita was dissected from the orbital rim. The temporal muscle on the lateral side of the orbital rim was dissected and retracted. A partial orbitotomy was performed, and the orbital rim was removed. A 0° rigid endoscope was inserted. We preserved the orbital periosteum. The temporal muscle around the tip of the middle fossa was peeled off and retracted. The sphenoid bone was drilled to expose the dura mater. The dura mater around the sylvian fissure was exposed. A dural incision was then made. The arachnoid surface of the temporal lobe was identified. The surrounding hemosiderin deposition was confirmed, and a cavernous angioma was identified. Sufficient proximal bone drilling allowed sufficient space for endoscopic procedures. The cavernous angioma was removed and the surrounding hemosiderin deposits were aspirated. We identified the depth electrode at the deepest part, revealing that we had reached the posterior limit of the resection. The surrounding hemosiderin deposit was removed. The dural incision was approximately 1 cm. An artificial dural substitute was placed in an inlay and outlay manner for dural plasty. The bone defect was filled with abdominal fat tissue. The orbit was fixed using a titanium plate. The skin was sutured, and all procedures were completed.

5:22 Postoperative Course. Postoperative MRI revealed complete removal of the lesion, including the surrounding hemosiderin deposit. The patient has been seizure free for 1 year after surgery without any complications.

5:36 Conclusions. The endoscopic transorbital approach may be a less invasive surgical approach for temporal tip epileptogenic lesions.

References

Disclosures
The authors report no conflict of interest concerning the materials or methods used in this study or the findings specified in this publication.

Author Contributions

Supplemental Information
Patient Informed Consent
The necessary patient informed consent was obtained in this study.

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