

Endoscopic-Assisted Resection of Cerebellopontine Angle Tumor in a Patient with Multiple Intracranial Meningiomas: A Literature Review and Case Report

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Introduction

Technically, handling and visibility are challenging for tumor resections in cerebellopontine angle (CPA) region thus contributing to residual tumor.

We aim to present and discuss a 50-year-old female with multiple intracranial meningiomas (left parietal tumor and CPA tumor), in which one of the tumors was resected using a minimally invasive endoscopic-assisted surgery.

Case Illustration

A 50-year-old female patient with a history of decreased consciousness, loss of hearing function, tinnitus, left-sided chronic progressive headache, vertigo, and weakness on the left side of their extremity consulted to neurosurgeon.

The first tumor were found at the left parietal lobe with calcification and dural-tail, which appeared hyperintense and homogenous after contrast enhancement.

The second tumor was also had a similar intensity on contrast MRI with an ice-cream-cone shape at the right cerebellopontine angle. The patient already undergone first resection of parietal tumor 3 months prior.

Conclusion

The main approach for multiple intracranial meningioma is surgical resection.

Instead of using microscope, the endoscopic-assisted approach could help neurosurgeons to perform tumor resection with better handling, visibility in difficult angles.

This approach minimizes post-op residual tumor, improves post-operative recovery, and reduces the recurrence rate.

Discussion

We performed two-stage surgery, consisting craniotomy of the left parietal mass and decompressive craniectomy of the right CPA tumor using minimally invasive endoscopic-controlled microsurgery three months after the first tumor resection.

A right-sided retrosigmoid approach craniectomy was performed in a park bench position. Tumor resection was performed using endoscopic controlled microsurgery using 0° endoscope. The histopathological type of the parietal tumor was meningothelial meningioma and the CPA tumor was fibrous meningioma.

Progress during hospitalization was unremarkable. The patient regained consciousness, reduced tinnitus, with improvement of headache duration and severity. Hearing loss still present after surgery. 3 months follow up showed diminished headache, vertigo, and tinnitus. Loss of hearing still present.

Tumors of the CPA usually challenging to manage optimally – involving blood vessels and cranial nerve. Grade I meningioma can be completely resected and have excellent prognosis, and have lower rate of facial palsy and hearing loss compare to Vestibular Schwannoma.

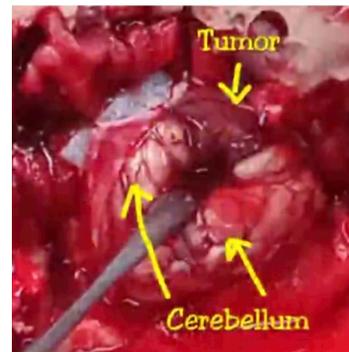


Image 1. Intraoperative image showing tumor the right Cerebellopontine Angle



Image 2. Preoperative and 2-Month postoperative image depicting Gross Total Removal

References

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