

Temporal Bone and Cerebellopontine Angle Epidermoid Resulting in Facial Nerve Paralysis: Resection and Facial Nerve Coaptation

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Abstract

Objectives Demonstrate the utilization of a transcochlear approach for resection of an epidermoid involving the temporal bone and cerebellopontine angle (CPA) with end-to-end facial nerve coaptation.

Designs Single case-based operative video.

Setting Tertiary center with dedicated skull base team.

Participants The patient is a 50-year-old left handed male with a history of a remote left Bell's palsy, left sudden sensorineural hearing loss, and a rapidly progressive facial nerve paralysis. His balance was impaired, and his videonystagmography showed a significant left sided peripheral vestibular weakness. Computed tomography (CT) scan showed an erosive lesion of his left temporal bone involving the cochlea and semicircular canals, and magnetic resonance imaging (MRI) showed a T2 hyperintense lesion with restricted diffusion and no enhancement on postcontrast T1 sequences.

Main Outcome Measures Gross total resection of the epidermoid, recovery of facial nerve function, balance improvement.

Results The patient underwent resection via a transcochlear approach. The tumor involved the epitympanum and eroded the semicircular canals, vestibule, and basal turn of the cochlea. Gross total tumor resection was attained. The facial nerve was isolated in the mastoid and tympanic segments, traced proximally to the geniculate ganglion, and then into the internal auditory canal (IAC). The nerve was discontinuous in the distal IAC and a reactive neuroma was resected. The facial nerve was mobilized and an end-to-end coaptation was performed in the CPA using a collagen tubule. The 3-month postoperative MRI showed no residual or recurrent disease. His postoperative balance was improved. Partial facial nerve recovery is not expected prior to 9 to 12 months.

The link to the video can be found at: <https://youtu.be/C6N8qPwBt2Y>.

Keywords

- ▶ epidermoid tumor
- ▶ transcochlear craniotomy
- ▶ facial nerve paralysis
- ▶ nerve coaptation
- ▶ temporal bone
- ▶ cerebellopontine angle
- ▶ facial nerve anastomosis



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Conflict of Interest
None.

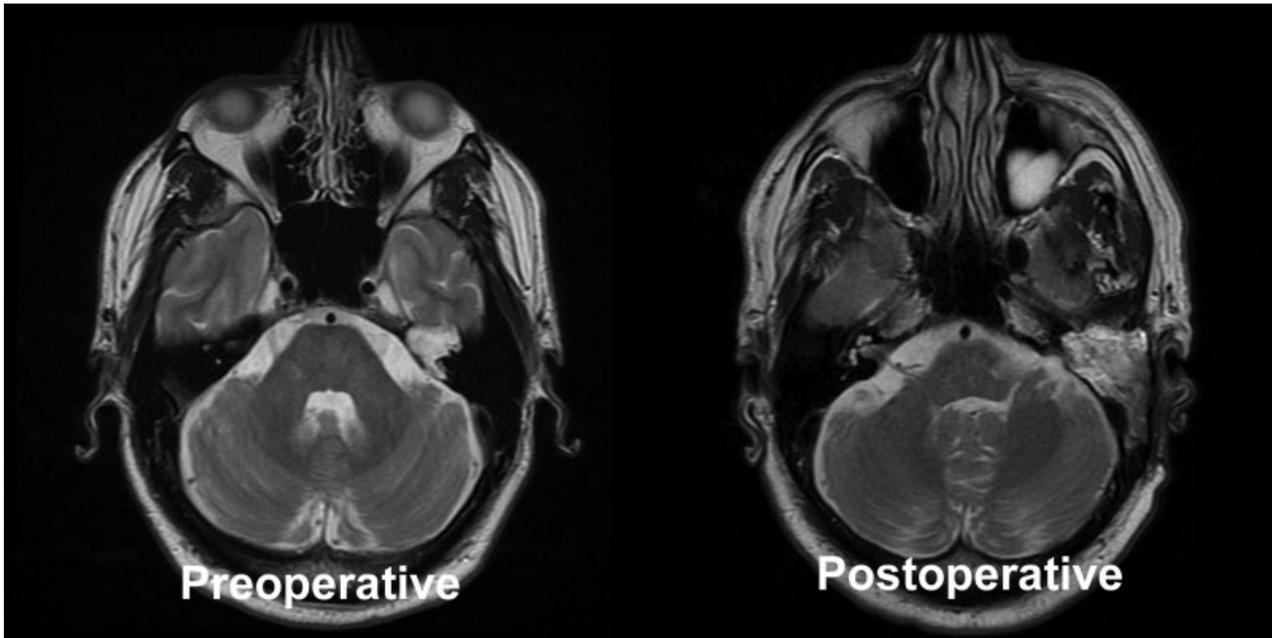


Fig. 1 Preoperative and postoperative axial T2 magnetic resonance imaging sequences showing complete resection of a left temporal bone and cerebellopontine angle epidermoid tumor.

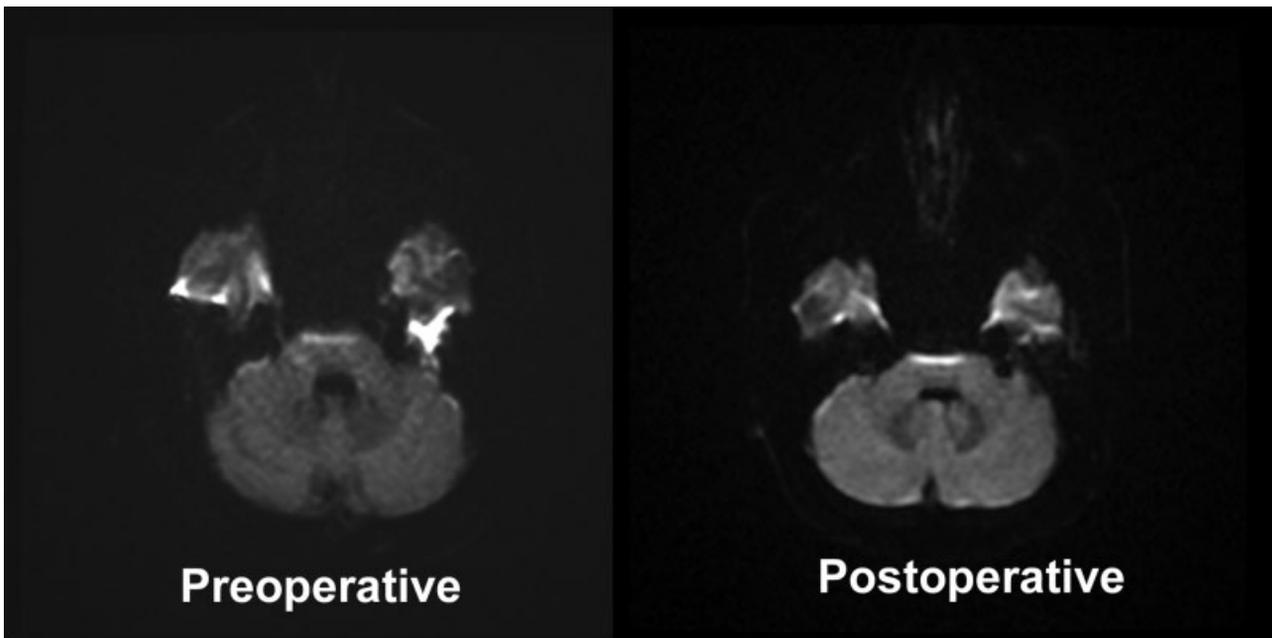


Fig. 2 Preoperative and postoperative axial diffusion-weighted magnetic resonance imaging sequences showing complete resection of a left temporal bone and cerebellopontine angle epidermoid tumor.