Gross Total Resection of Large Cerebellopontine Angle Meningioma with a Supratentorial Extension via Retrosigmoid Approach with Suprameatal Drilling and Tentorial Sectioning

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Abstract

Meningiomas are the second most common neoplasm in the cerebellopontine angle (CPA), and are challenging lesions to treat surgically. With significant refinements in surgical techniques, operative morbidity, and mortality have been substantially reduced. Total or near-total surgical resection can be accomplished in the majority of cases via appropriately selected approaches, and with acceptable morbidity. In this video, we present a 51-year-old woman, who had a 2-year history of vertigo with symptoms that progressed over time. She presented with blurry vision, sensorineural hearing loss, tinnitus, left-sided facial numbness, and double vision. Magnetic resonance imaging (MRI) showed a left-sided homogeneously enhancing mass at CPA with a supratentorial extension. MRI appearance was consistent with a CPA meningioma with supratentorial extension. The patient underwent surgical resection via a retrosigmoid approach. Suprameatal drilling and tentorial sectioning were necessary to achieve gross total resection. The surgery and postoperative course were uneventful. The histopathology was a WHO (world health organization) grade I meningioma. MRI showed gross total resection of the tumor. After a 1.5-year follow-up, the patient is continuing to do well with no residual or recurrent disease. In this video, microsurgical techniques and important steps for the resection of this challenging meningioma of the cerebellopontine angle are demonstrated.

The link to the video can be found at: <https://youtu.be/CDto52GxrG4>.

Keywords

- cerebellopontine angle
- meningioma
- microsurgery
- suprameatal drilling
- gross total resection

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Fig. 1 Pre and postoperative magnetic resonance imaging.

Fig. 2 Intraoperative images.