

Microsurgical Resection of Petroclival Meningiomas Treated with Stereotactic Radiosurgery to Address Persistent Post-Treatment Trigeminal Pain

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Abstract

Background: Petroclival meningiomas (PCM) are challenging tumors to manage. Observation, surgical resection and radiosurgery have typically been offered as treatment options. A small percentage of patients with petroclival meningiomas present with trigeminal pain. We present four cases of patients with petroclival meningiomas presenting with TN that were treated with radiosurgery and continued to have debilitating trigeminal pain afterwards. The four patients underwent microsurgical resection of their tumor to manage their trigeminal pain.

Methods: An IRB approved retrospective study for patients with petroclival meningiomas presenting with TN who were previously treated with stereotactic radiosurgery (SRS) followed by surgical resection were included. The patients' demographics, clinical, and radiological data as well as postoperative morbidity were reviewed. The patients' trigeminal neuralgia outcomes were assessed using the Barrow Neurological Institute (BNI) scale. The primary aim was to assess the improvement of pain after microsurgical resection.

Results: Four patients were included in this case series. They all presented with trigeminal pain and were initially treated with SRS. Radiologic tumor control was achieved in all patients after SRS, however the patients continued to have trigeminal pain despite medical management. Subsequently, the four patients underwent microsurgical resection of their tumor with the goal of controlling their pain. All four patients had complete resolution of their TN pain, with a BNI score of I at median follow up of 45 months range 19-61 months

Conclusion: Microsurgical resection is a good option for patients with persistent facial pain in petroclival meningiomas who had been treated initially with stereotactic radiosurgery.

Learning Objectives

Describe the current treatments for PCM associated with TN.