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Radiosurgery for Trigeminal Neuralgia Secondary to Epidermoid Cyst of the Cerebellopontine Angle: A Case Report

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Abstract

Objectives:

The epidermoid cyst is the third most common benign tumor of the cerebellopontine angle, accounting for 4% of lesions at this level. Can remain silent for years, implying their diagnosis in advanced stages, manifest as headache, trigeminal neuralgia, and cochleovestibular involvement. Its treatment is resection, which is difficult in its entirety due to its growth pattern and difficult surgical access, as well as high morbidity which is generally incomplete and with sequelae.

Methods:

A 31-year-old patient who presented with trigeminal neuralgia in 2017 not controlled by medication, was diagnosed with MRI of epidermoid cysts in the right cerebellopontine angle, treated with incomplete resection in 2017 without clinical improvement. He was subsequently treated with 50GY IMRT radiotherapy in 25 fractions in December 2022 with partial improvement. Four months later, due to an increase in neuralgia, he was considered a candidate for re-irradiation using radiosurgery.

Results:

After 13 months of receiving IMRT, in January 2024, radiosurgery treatment was indicated to the right trigeminal nerve at a dose of 85 Gy with a 90% isodose line at a volume of 0.034 cm3 using a linear accelerator. With the treatment, he showed an improvement of at least 70% of symptoms at one month. The patient was evaluated monthly for 9 months, presenting improvement of up to 90% of neuralgia, presenting vestibular neuritis during the same, which was completely controlled with medications.

Conclusion(s):

The use of radiosurgery for pain control in refractory trigeminal neuralgia is a form of treatment that can be considered first-line given the success rate and low morbidity. It is possible to control pain from the beginning, and a high percentage of patients do not require medication after treatment.