Cerebellopontine Angle Synchronous Tumor

Synchronous cerebellopontine angle (CPA) tumors are a rare entity, heterogeneous lesions with a marked predisposition toward poor facial nerve outcomes, potentially attributable to a paracrine mechanism that simultaneously drives multiple tumor growth and increases invasiveness or adhesiveness at the facial nerve-tumor interface. Preceding nomenclature has been confounding and inconsistent; Graffeo et al. recommended classifying all multiple CPA tumors as “synchronous tumors,” with “schwannoma with meningothelial hyperplasia” or “tumor-to-tumor metastases” reserved for rare, specific circumstances [1].

Treatment

Several publications refer to surgery for such tumors and their classification. Yet, there are no publications on upfront radiosurgery for synchronous CPA tumors.

Simultaneous and stepwise radiosurgery for synchronous CPA tumors seems to be safe and effective. There were no side effects or complications. To the best of our knowledge this is the first report on upfront radiosurgery for synchronous CPA tumors [2].

Case reports

Mindermann and Heckl presented two patients with sporadic synchronous benign CPA tumors who underwent upfront radiosurgery. One patient had two separate schwannomas of the CPA and the other had a cerebellopontine angle schwannoma and a cerebellopontine angle meningioma. One patient underwent stepwise radiosurgery treating one tumor after another and the other patient underwent simultaneous radiosurgery for both tumors at the same time.

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A 64-year-old woman and a 42-year-old man presented with symptoms referable to the CPA. Magnetic resonance imaging in both patients revealed 2 separate contiguous tumors. Retrosigmoid craniotomy and tumor removal in each case confirmed VS and meningioma. Systematic literature review identified 42 previous English-language publications describing 46 patients with multiple CPA tumors. Based on Frassanito criteria, there were 4 concomitant tumors (8%), 16 contiguous tumors (33%), 3 collision tumors (6%), 13 mixed tumors (27%), and 11 tumor-to-tumor metastases (23%). Extent of resection was gross total in 16 cases and subtotal in 16 cases (50% each). Unfavorable House-Brackmann grade III-VI function was documented in 27% overall and in 33% of patients with VS and meningioma, a marked increase from the observed range in isolated VS [4].

A 57-year-old female patient presented with headache, speech disturbance, left facial numbness and

deafness in the left ear. Magnetic resonance imaging demonstrated two different tumors in the left CPA. These tumors were not in continuity. The tumors were totally removed through the left suboccipital approach. Histopathological examination revealed that the large tumor was a vestibular schwannoma and the smaller was a meningioma. Neurofibromatosis was not diagnosed in the patient. No recurrence was observed at the end of 9 years after the operation. The simultaneous occurrence of vestibular schwannoma and meningioma in the CPA appears coincidental. This association must be kept in mind if two different tumors are detected radiologically in the same CPA [5].

References

[1] [4]
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