

# Vagal Paraganglioma

Five Vagal [Paragangliomas](#) in 4 patients (all male, ages 15-56 years) underwent SRS between 2010 and 2018. Outcome measures included tumor dimensions on serial imaging, cranial nerve function, and radiation side effects.

CyberKnife hypofractionated SRS was performed. The prescription dose was 24 or 27 Gy (maximum dose 33.4 Gy; range, 29.3-35.5 Gy) delivered in 3 equal fractions. The mean isodose line was 79% (range, 76%-82%). Four VPs were treated primarily, and 1 tumor underwent SRS to treat regrowth 2 years after microsurgical subtotal resection via the modified infratemporal fossa approach. The treatment volume ranged from 8.81 to 86.3 cm<sup>3</sup> (mean, 35.7 cm<sup>3</sup>). All demonstrated stable size (n = 3) or regression (n = 2) at last follow-up, 63 to 85 months after SRS (mean, 76 months). One patient had stable premonitory vocal fold paralysis from a prior ipsilateral glomus jugulare tumor resection. All others demonstrated normal vagal function following SRS. Treatment-related side effects, including dysgeusia (n = 1), mucositis (n = 1), and neck soft-tissue edema (n = 2), were self-limited.

Hypofractionated SRS appears to be both safe and effective for treating VPs, including large-volume and predominantly extracranial tumors, while preserving vagal function. SRS should be considered as a cranial nerve preservation option, especially in settings of contralateral lower cranial nerve deficits or in those with multiple paragangliomas risking both vagal nerves <sup>1)</sup>.

<sup>1)</sup>

Maxwell AK, Mehta GU, Muelleman T, Barnard ZR, Hartwick T, Mak A, Brackmann DE, Lekovic GP. Hypofractionated Robotic Stereotactic Radiosurgery for Vagal Paragangliomas: A Novel Treatment Strategy for Cranial Nerve Preservation. Otolaryngol Head Neck Surg. 2020 Mar 3;194599820910150. doi: 10.1177/0194599820910150. [Epub ahead of print] PubMed PMID: 32125943.

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