Repeat Gamma Knife Radiosurgery for Recurrent Vestibular Schwannoma After Prior Radiosurgery

Proposal to IGKRF for Multicenter Retrospective Study

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Stereotactic radiosurgery is now the primary management modality for most small-to-medium size vestibular schwannomas. Gamma knife radiosurgery is known to afford long-term tumor control in 90-98% of treated cases, with very low risk of treatment-related morbidity\textsuperscript{1,2}. Transient tumor expansion is commonly seen up to 3 years after radiosurgery, and must not be mistaken for real tumor growth\textsuperscript{3}. For patients with documented confirmed tumor growth after radiosurgery, surgical resection is often considered the treatment of choice\textsuperscript{4}. Some authors have reported increased surgical difficulty when operating on these patients\textsuperscript{5}.

In an effort to avoid the risks associated with open surgery, repeat radiosurgery has been offered to patients with growing vestibular schwannomas in cases where minimal symptoms are present and the tumor is still considered an appropriate size for this management modality. There has been a few small case series published, reporting good tumor control and low
morbidity. However, proper evidence of the effectiveness of repeat radiosurgery for vestibular schwannomas is lacking.

The goal of the proposed study is to properly assess the outcomes of repeat gamma knife radiosurgery for recurrent vestibular schwannomas in a large patient cohort that can only be attained by using the pooled data of centers participating in the International Gamma Knife Research Foundation. Patients will be included if they had repeat gamma knife radiosurgery for confirmed tumor growth despite prior treatment and a minimum of 6 months of follow-up after the second radiosurgery procedure. Resection between the 2 radiosurgery procedures will be permitted. The primary outcomes of the study will be to assess tumor control rates and clinical evolution, including hearing preservation, vestibular, facial and trigeminal function.


3. Pollock BE. Management of vestibular schwannomas that enlarge after stereotactic


