



Gamma Knife Stereotactic Radiosurgery for Vestibular Schwannomas in Elderly Patients

Justin Tay BS; Philip Lee MD PhD; Ajay Niranjana MD, MBA; Hideyuki Kano MD, PhD; L. Dade Lunsford MD; Edward A. Monaco III MD, PhD

Introduction

The role of stereotactic radiosurgery (SRS) for vestibular schwannomas (VS) in the elderly population (>80 years) remains controversial. SRS may be the best strategy in such patients who often have numerous comorbidities.

Methods

Sixty-two VS patients underwent Gamma Knife SRS between 1988 and 2012. Three patients had previous incomplete surgical resection. The median tumor volume was 3.7 cc. All patients received a median margin dose of 13 Gy (range 12-14 in a single procedure). The median age was 82 years (range, 80-95) and the median follow-up was 24 months (range, 4-91 months). Overall survival, tumor response, adverse radiation effects and clinical outcomes were evaluated.

Results

Overall median survival of these patients was 79.4 months (range, 5-228 months) following SRS. Thirty-nine patients had serial follow up magnetic resonance imaging (MRI). Seventeen patients experienced tumor stability, two had transient growth followed by volumetric stabilization. Nineteen demonstrated tumor regression. One patient required post-GK surgical resection and another stereotactic cyst drainage. Three patients underwent CSF diversion because of progressive symptomatic hydrocephalus. Three patients experienced new facial neuropathy and three patients developed trigeminal neuropathy after SRS. No patient suffered an adverse radiation effect. Of the three patients who had serviceable hearing (Gardner-Robertson < 2) before SRS, one patient worsened and two were unchanged. One patient’s hearing improved (grade 3 to grade 2).

Conclusions

Elderly patients with VS may have extended additional life spans. SRS provides a low risk strategy that results in tumor control and functional preservation. It is the procedure of choice for such patients and stabilizes or improves quality of life.

Learning Objectives

By conclusion of this session, participants should be able to: 1) Discuss the role of SRS in the treatment of elderly patients harboring vestibular schwannomas and, 2) Describe the benefits and drawbacks of SRS for these patients.

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