

# Efficacy of stereotactic radiosurgery in recurrent oligodendroglioma

Seung-Yeob Yang MD



## Introduction

Stereotactic radiosurgery (SRS) is one salvage treatment option in previously irradiated patients with recurrent oligodendroglioma. We assessed the efficacy of SRS performed as a salvage treatment in 40 patients with recurrent low- and high-grade oligodendrogliomas.

## Methods

Forty patients with recurrent oligodendrogliomas underwent SRS at our radiosurgery. The mean patient age was 44.9 years (range, 11.0-72.0). Of these 40 patients, 34 received a full course of radiotherapy before SRS with a median dose of 56.4Gy in conventional fractionation and 13 received at least one chemotherapeutic regimen including procarbazine, cyclophosphamide, and vincristine. The mean time between primary diagnosis and SRS was 60.9 months (range, 4.1-146.0). The mean target volume was 5.10 cm<sup>3</sup> (range, 0.1-25.6) and the mean margin dose was 16.2Gy (range, 10.0-23.0).

## Learning Objectives

SRS can be applied safely for recurrent malignant gliomas of small target volume, while minimizing the risk for radiation-induced complications.

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## Results

At a mean of 55.5 months of follow-up (range, 5.0-152.4) after GKRS, 20 patients were dead and 20 were living. Median overall survival after SRS was 106.7 months for patients with oligodendroglioma and 35.5 months for patients with anaplastic oligodendroglioma. Age at SRS, tumor recurrence after SRS, presence of neurological symptom, and tumor grade were significant in influencing overall survival after SRS. Median progression-free survival after GKRS was 31.3 months for oligodendroglioma and 15.7 months for anaplastic oligodendroglioma. Factors associated with an improved progression-free survival were presence of neurological symptom and tumor grade.

## Conclusions

SRS offers considerable treatment option as a salvage therapy for patients with smaller lesions of recurrent oligodendrogliomas.