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### Stereotactic radiosurgery as single-modality treatment of incidentally identified renal cell carcinoma brain metastases.

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#### Abstract

**BACKGROUND:** Initial staging evaluation of patients with renal cell carcinoma (RCC) has led increasingly to the diagnosis of brain metastases in patients who are otherwise neurologically asymptomatic. We present our experience treating patients with incidentally identified brain metastases with initial stereotactic radiosurgery (SRS) monotherapy and compare outcomes with those of patients treated at our institution with other strategies and with those reported in the literature.

**METHODS:** We conducted a retrospective outcomes analysis in patients with incidentally identified RCC brain metastasis treated with initial SRS monotherapy. Our radiation oncology and tumor databases were reviewed, identifying 80 patients treated between 1990 and 2006.

**RESULTS:** We found 19 patients with asymptomatic, incidentally identified brain metastasis (KPS, 90-100) treated with SRS monotherapy within 60 days of diagnosis. Stereotactic radiosurgery was performed at a mean of 17.8 days from diagnosis to an average of 3.1 lesions (range, 3-11; mean lesion volume, 1.72 cm<sup>3</sup>; mean total volume, 4.53 cm<sup>3</sup>). The mean prescription was 21.3 Gy delivered to the mean 59.97% isodose line. The mean survival for these patients was 21.5 months (median, 12.6 months) and was not statistically different from survival in similar patients treated with other therapeutic modalities. Local control was achieved in 95% of patients; distant central nervous system progression occurred in 79% of patients at a mean of 450 days.

**CONCLUSIONS:** We demonstrate that patients with incidentally identified RCC brain metastases treated with initial SRS monotherapy achieved a survival rate comparable with that of patients managed with standard therapeutic modalities. Our findings suggest that SRS alone is an attractive therapeutic option for patients with incidentally identified brain metastases from RCC.

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