

# Stereotactic Radiosurgery for Cranial and Spinal Hemangioblastomas: A Single-Institution Retrospective Series

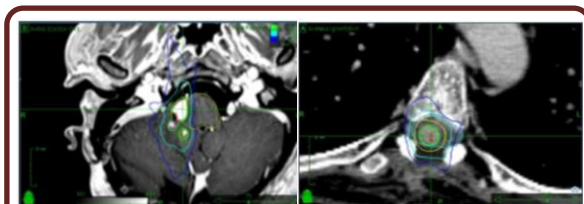
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## Objective

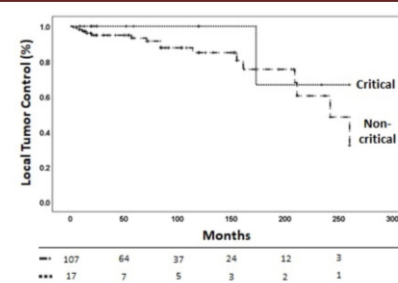
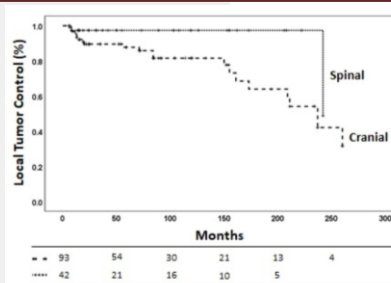
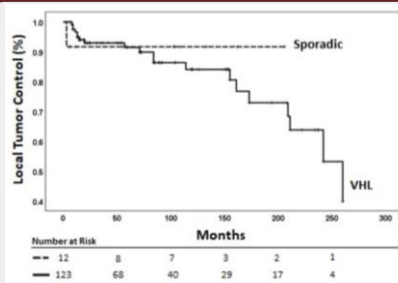
- **Stereotactic radiosurgery (SRS)** emerges as a compelling approach for cranial and spinal **hemangioblastomas (HB)**, particularly in addressing multiple lesions linked with **von Hippel-Lindau (VHL)** disease.
- This study aims to provide **the largest long-term analysis** of efficacy and adverse effects of SRS for cranial and spinal HB at a **single institution**.

## Study Design

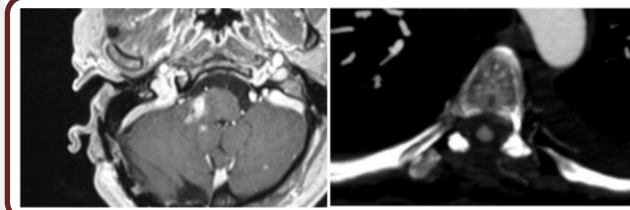


- **Retrospective Analysis:** 135 HB in 35 patients following CyberKnife SRS from 1998 to 2022
- **Patient Cohort:** (1) 28 patients with 123 VHL associated HB; (2) 7 patients with 12 sporadic HB
- **Treatment Precision:** median single-fraction equivalent dose (SFED) of 18 Gy to the 77% median isodose line

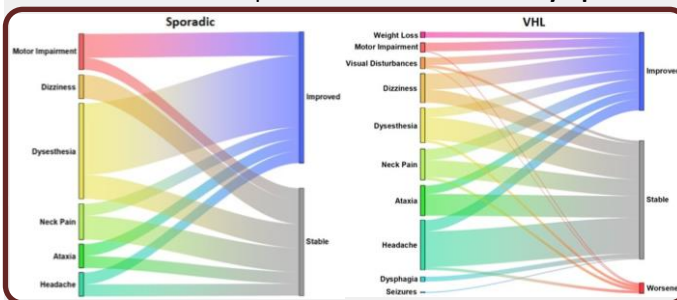
## Results



- **Median Follow-Up Duration:** 57 months (Range: 3-260)
- **Progression Rates:**
  - Sporadic HB: 8.3%
  - VHL-associated HB: 16.2%
- **5-Year Local Tumor Control (LTC) Rates:**
  - Sporadic HB: **91.7%**
  - VHL-associated HB: **92.9%**
- **Symptomatic Improvement:** **74.8%** showed improved **tumor-associated symptoms**



- **Radiation-induced Adverse Effect:**
  - **5.7%** developed **radiation necrosis**
  - **1** out of 2 cases required **surgical resection**



## Conclusion

SRS is a **safe and effective treatment modality** for patients with HB in **critical** locations such as the brainstem, cervicomedullary junction, and **spinal cord**, and in patients with multiple HB associated with VHL disease.