


Cranio-Orbital Pretemporal Approach for Resection of Right Superior Orbital Fissure/Orbital Renal Cell Metastasis: 2-Dimensional Operative Video

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Orbital metastatic lesions are rare entities¹⁻³ best treated with radical surgical resection with preservation/improvement of neurological and visual function.¹⁻⁹ Renal cell metastases, in particular, respond less favorably to radiation.⁹ To our knowledge, an operative video of microsurgical resection of a renal cell carcinoma metastasis to the superior orbital fissure and orbit has not been reported.

A patient presented with worsening right eye vision as demonstrated on preoperative visual field testing and found to have a 3 × 1 × 1 cm lesion in the orbit and superior orbital fissure. The patient was placed supine and stealth neuronavigation was used to aid in tumor localization and extension. A cranio-orbital craniotomy and pretemporal exposure^{2,10,11} were performed to allow extradural dissection of the dura propria off the lateral wall of the cavernous sinus. Right-sided extradural cranial

nerves II, III, IV, V1, and V2 were identified, and a high-speed diamond drill was used to perform extradural anterior clinoidectomy and optic nerve decompression. Microsurgical resection of the intraorbital tumor components was performed by the senior author (KIA) to delineate the plane between tumor and periorbita. An oval-shaped dural opening was made to resect the dura involved by tumor, confirmed on histological analysis, followed by closure via dural allograft. The patient's right-sided visual field improved markedly after surgery.

Metastatic renal cell carcinoma of the orbit should be resected while preserving and improving preoperative neurological and visual function. The orbitocranial pretemporal approach offers wide visualization to achieve surgical resection.

The patient provided written consent and permission to publish her image.

KEY WORDS: Orbital, Superior orbital fissure, Metastasis, Tumor, Microsurgical resection

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