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Video Contents

Video 4.1 Five-aminolevulinic acid (5-ALA) fluorescence-guided surgery for recurrent high-grade glioma resection. This video highlights the use of a wavelength-specific lighted suction device to aid in 5-ALA fluorescence-guided surgery.

Video 5.1 Five-aminolevulinic acid (5-ALA) in suspected LGG.

Video 8.1 An operative video of the case presented in Fig. 8.2. This is a 27-year-old woman who presented with neck and back pain. 5-aminolevulinic acid (5-ALA) fluorescence-guided resection was performed. Following the C3–C5 laminotomy, we encountered the swollen spinal cord. First, we opened the intratumoral cyst from the caudal pole. Next, we dissected the posterior median sulcus to expose the tumor, and started removal of it. The tumor had strong 5-ALA fluorescence. Along the sidewalls of the tumors, it was relatively easy to perform dissections to separate the tumor from the spinal cord. We continued dissection until we reached the ventral border. At the caudal end, a tumor on the edge was removed according to the red fluorescence. The yellowish tissues that did not exhibit fluorescence were left untouched. With 5-ALA fluorescence guidance, complete tumor resection was accomplished.

Video 8.2 An operative video of the case presented in Fig. 8.5. This is a 57-year-old man who presented with hypersensation in his right lower extremity. Following a

right C6 hemilaminectomy, the tumor was encountered. The relationships between the tumor and surrounding vasculatures were not clear. However, indocyanine green (ICG) videoangiography indicated the arterial feeders and helped surgeons to perform safe resection of this hypervascular tumor. A second ICG videoangiography confirmed no residual tumors. With ICG fluorescence guidance, complete tumor resection was accomplished.

Video 10.1 Right interhemispheric craniotomy for resection of glioblastoma.

Video 12.1 Resection of intraparenchymal metastasis with near-infrared fluorescence guidance.

Video 19.1 The video demonstrates resection of a Spetzler–Martin grade 1 right temporal arteriovenous malformation (AVM) supplied by the right middle cerebral artery with superficial venous drainage to the superior sagittal sinus and transverse-sigmoid sinus. ICG angiography is performed prior to AVM resection to help identify the arteries, nidus, and veins of the AVM as well as normal arteries, veins, and capillaries adjacent to the AVM. The AVM was completely resected and confirmed with postoperative digital subtraction angiography.

Video 20.1 ICG-VA for intraoperative confirmation of bypass patency in cerebral revascularization.