Visual Disturbance After Removal of Cerebellar Hemangioblastoma in Acute Rehabilitation: A Case Report

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Introduction

- Hemangioblastomas are highly vascular benign tumors of the central nervous system that can develop in the spinal cord, brain, or retina. In total, they make up only 1 – 2.5% of all intracranial neoplasms, and they most commonly occur in the cerebellum. Of those, 75% are sporadic while the other 25% are associated with von Hippel-Lindau disease (VHL). The clinical presentations relate to the anatomical location of the tumor and its mass-effect. When located in the cerebellum, possible compression of the fourth ventricle may lead to non-communicating hydrocephalus causing symptoms of increased intracranial pressure such as headaches and nausea. If located in the spine, patients may present complaining of pain, weakness, or paresthesias.

Case Report

- A 26-year-old male with no past medical history presented with headaches, gait imbalance, and pulsatile tinnitus in his right ear that began several months earlier. MRI of the brain revealed cystic lesions located in the left cerebellum causing compression of the cerebral aqueduct and fourth ventricle. Patient initially underwent embolization of cerebellar hemangioblastoma and subsequently went to the OR for left suboccipital craniotomy for resection of tumor. Postoperatively, he was noted to have new onset right hemibody numbness and diplopia. Symptoms were thought to be likely due to post-operative edema. VHL was ruled out with additional imaging and normal urine metanephrine levels . No retinal hemangioblastomas were identified and he was recommended to use a single eye patch for symptomatic improvement.
- On admission to acute rehab, patient required substantial assistance with toileting, dressing and transfers. Partial assistance was needed for showering, postural changes, and walking up to 50 feet. Patient was given a course of dexamethasone for post-op edema, and gabapentin was started during his rehab stay for numbness. Towards the end of his rehab stay, patient still complained of double vision with an overall decrease in right sided numbness and tingling.
- Upon discharge, patient only required set up for showering and supervision for dressing, standing up, transfers and walked 150 feet. Walking on uneven surfaces, going up 12 steps and picking up object was not attempted on admission but were performed with supervision upon leaving.

Figures

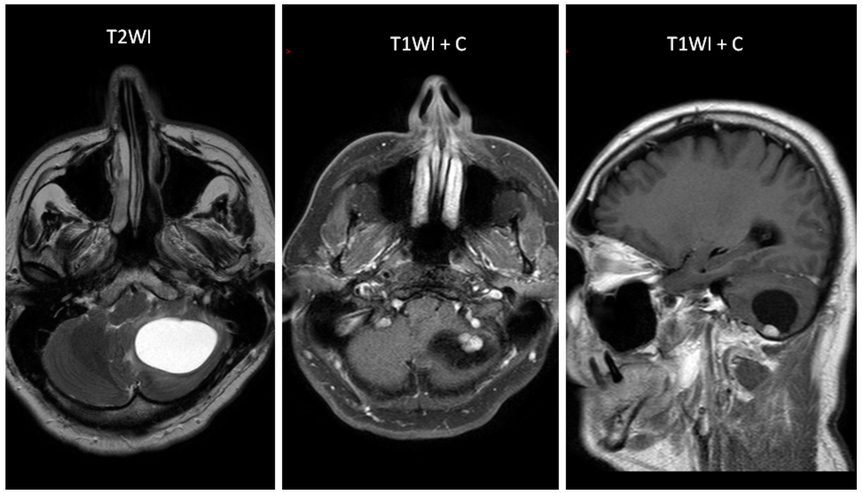

Figure 1: Courtesy of Leung RS, Biswas SV, Duncan M, Rankin S. Imaging features of von Hippel-Lindau disease. Radiographics. 2008 Jan-Feb;28(1):65-79; quiz 323. doi: 10.1148/rg.281075052. PMID: 18203931.

Discussion

- The initial patient presentation correlated to the lesions' location in the cerebellum. The content of the cerebellopontine angle includes several cranial nerves including the vestibulocochlear nerve. Compression of this nerve presumably caused the auditory and auricular symptoms, and the cerebellar lesions caused the vertigo. The proximity of the cerebellum also facilitated the compression of the ventricular system, which caused the patients initial headache symptoms. Surgical resection is the mainstay of treatment, although, embolization and stereotactic radiosurgery are possible alternatives in poor surgical candidates. Patients presenting with hemangioblastomas should also be worked up for VHL as a quarter of these patients may be undiagnosed.

Conclusion

- Symptoms of hemangioblastomas are highly dependent on their location. In this case, the tumor was in the cerebellum explaining his gait, auditory and auricular symptoms. Successful resection along with acute inpatient rehabilitation allowed for a near-complete recovery.

References

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