

Bilateral Vision Loss

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Chief Complaint:

2 weeks of intermittent bilateral visual loss

HPI:

53-year-old male with a history of a brain aneurysm coiled 14 years ago and DM presented to the emergency department for transient bilateral visual loss and intermittent headaches. Patient was recently discharged from the hospital 3.5 weeks ago after suffering a traumatic left sided subdural hematoma. During that time, the patient was observed without any progression of the hemorrhage. Patient saw his ophthalmologist today who saw papilledema and referred the patient to the ER.

Physical Exam:

Vitals stable
Constitutional: AAOx3, no acute distress
HEENT: PERRL, Visual acuity 20/20 bilaterally, EOMI, no proptosis
CV: RRR
PULM: CTAB
NEURO: CN 2-12 intact, gait steady, strength and sensation intact, finger to nose intact

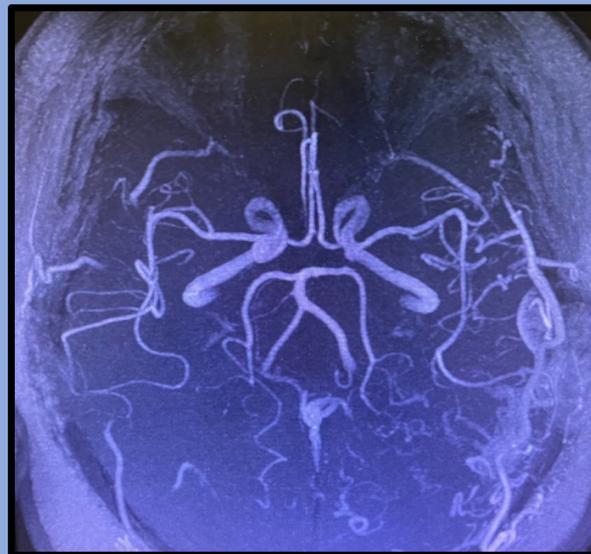
Significant diagnostic results:

CT Brain: embolization coils in the left circle of Willis which were unchanged from previous studies

Lumbar puncture (by interventional radiology): normal opening pressure

Questions:

1. What does the MRI show that can be contributing to the patient's symptoms?
2. What artery involvement can lead to this patient's presentation?



Case discussion:

Brain MRA/MRV revealed a moderate-sized left-sided AVM in the left posterior temporal-occipital artery with contributions from the peripheral aspect of the posterior cerebral arteries. Patient was admitted and taken to the operating room with neurosurgery for a cerebral angiogram and subsequent embolization of the AVM. On follow up, the patient's visual symptoms resolved.

Pearls:

- 1) Post-traumatic AVMs are usually caused by traumatic penetrating injuries to vasculature. Penetrating injury induced AVMs can be clinically asymptomatic or can present as a murmur with or without a palpable thrill or a pulsatile mass. However, the development of an AVM following an intracranial hemorrhage has never been reported in the literature.
- 2) Radiological imaging is critical in identifying and localizing these vascular anomalies. Following this diagnosis, neurosurgery should be emergently consulted for operative embolization to prevent complications of thrombosis, embolism, infection and rupture.
- 3) Bilateral vision loss should be addressed emergently with correlation to radiographic imaging that can identify lesions within the visual pathway that can explain a patient's visual complaints.

References

1. Perinjilil V, Maraqa T, Chavez Yenter A, Ohaeri H, Mercer L, Bansal A, Sachwani-Daswani G. Traumatic arteriovenous fistula formation secondary to crush injury. J Surg Case Rep. 2018 Sep 21;2018(9):rjy240. PMID: 30254731; PMCID: PMC6149232.
2. Robbs JV, Carrim AA, Kadwa AM, Mars M. Traumatic arteriovenous fistula: experience with 202 patients. Br J Surg. 1994 Sep;81(9):1296-9.. PMID: 7953391.