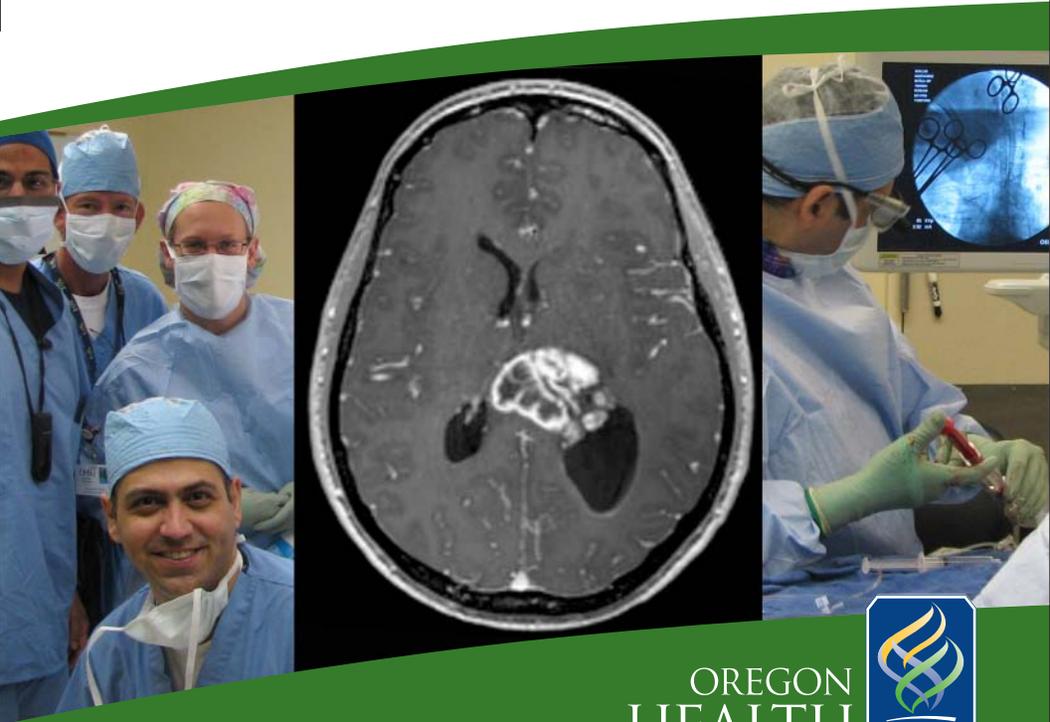


Neurosurgical Case of the Month by Aclan Dogan, MD

September 2009:

Large Intraventricular Mass



Large Intraventricular Mass

Patient history and diagnosis

An otherwise healthy 19-year-old male presented at the emergency department with a headache of ~3 weeks, described as constant, becoming worse throughout the day and when lying down. Headache medications have proved unsuccessful. Nausea and vomiting particularly over last 5 days and recent short-term memory problems were also reported. The patient denied any other neurological symptoms. Past medical history revealed a non-surgical head injury. There was no past surgical history. Head computed tomography revealed a left lateral ventricle mass.

Neurological Examination Results:

Mental status: Normal consciousness, orientation, affect and fluency
Cranial Nerves: 2nd - 12th intact on detailed examination
Motor: Normal strength, muscle bulk, and tone
Sensory: Intact to pinprick and light touch
Cerebellar: Normal finger-to-nose and rapid alternating movements
Gait: Normal, tandem and romberg negative
Deep Tendon Reflexes: Present and normo-active
Pathologic Reflexes: Absent

Imaging Results

Contrast enhanced T1 axial and coronal MR imaging revealed a multilobulated, enhancing, hemorrhagic 3.6 x 4.5 x 4.2 cm mass centered in the left lateral ventricle, with surrounding vasogenic edema and associated entrapment of the occipital and temporal horns. It was difficult to distinguish the choroid plexus in the lateral ventricle from the mass. There was associated colpocephaly and dilation of the temporal horn of the left lateral ventricle secondary to entrapment.

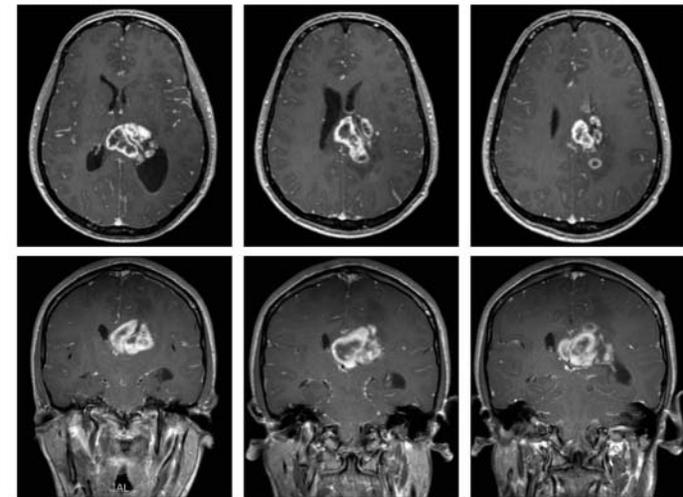


Figure 01: Contrast enhanced T1 axial and coronal MRI scans shows multilobulated, enhancing, hemorrhagic 3.6 x 4.5 x 4.2 cm mass centered in the left lateral ventricle, with surrounding vasogenic edema and associated entrapment of the occipital and temporal horns.

Large Intraventricular Mass

Plan and Surgical Treatment

The patient's headache was likely a result of lesion mass effect and the enlargement of the left temporal and occipital horns due to entrapment. Pre-pathology mass differential diagnosis included: ependymoma, choroid plexus mass or central neurocytoma.

A common surgical approach to this lesion is a left parieto-occipital stealth guided craniotomy and transcortical-transventricular tumor resection. However, this approach carries the risk of a loss of vision in the visual field (homonymous hemianopsia), a significant deficit in a young patient, especially if the patient wishes to drive post surgery. Therefore, given this particular tumor's size, the lack of aggressive symptoms, the likelihood that the lesion was benign and the importance of keeping the patient deficit free with a high quality of life, I determined that a left parieto-occipital interhemispheric transcingulate-transsplenic approach was the best surgical course. A left precuneal cortical incision was made and the lesion totally resected.

Outcome

There were no complications. Postoperatively, the patient was awake, alert and neuro-intact with a normal visual field exam. Pathology was consistent with a benign pilocytic astrocytoma (a brain tumor that occurs predominantly in children and involves the midline, basal and posterior fossa structures). Continued follow up and regular brain MR imaging are necessary to monitor any chance of a recurrence.

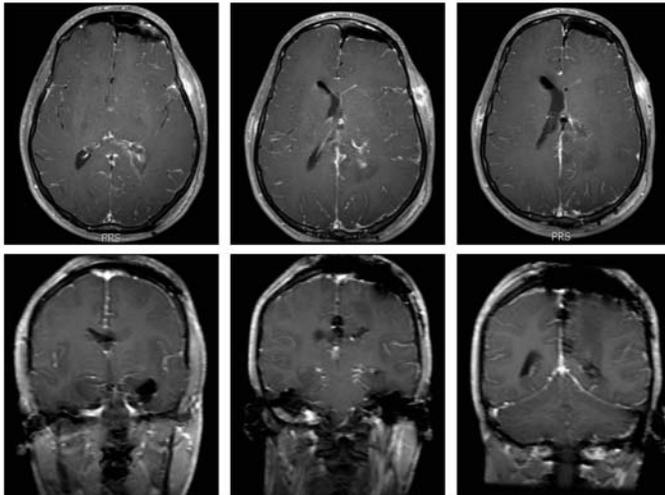


Figure 02: Postoperative contrast enhanced T1 axial and coronal MRI scans confirm gross total resection.

For more information or to refer a patient, contact:

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