17 y/o woman presenting with headache and visual disturbance

Martin Ollenschleger, MD

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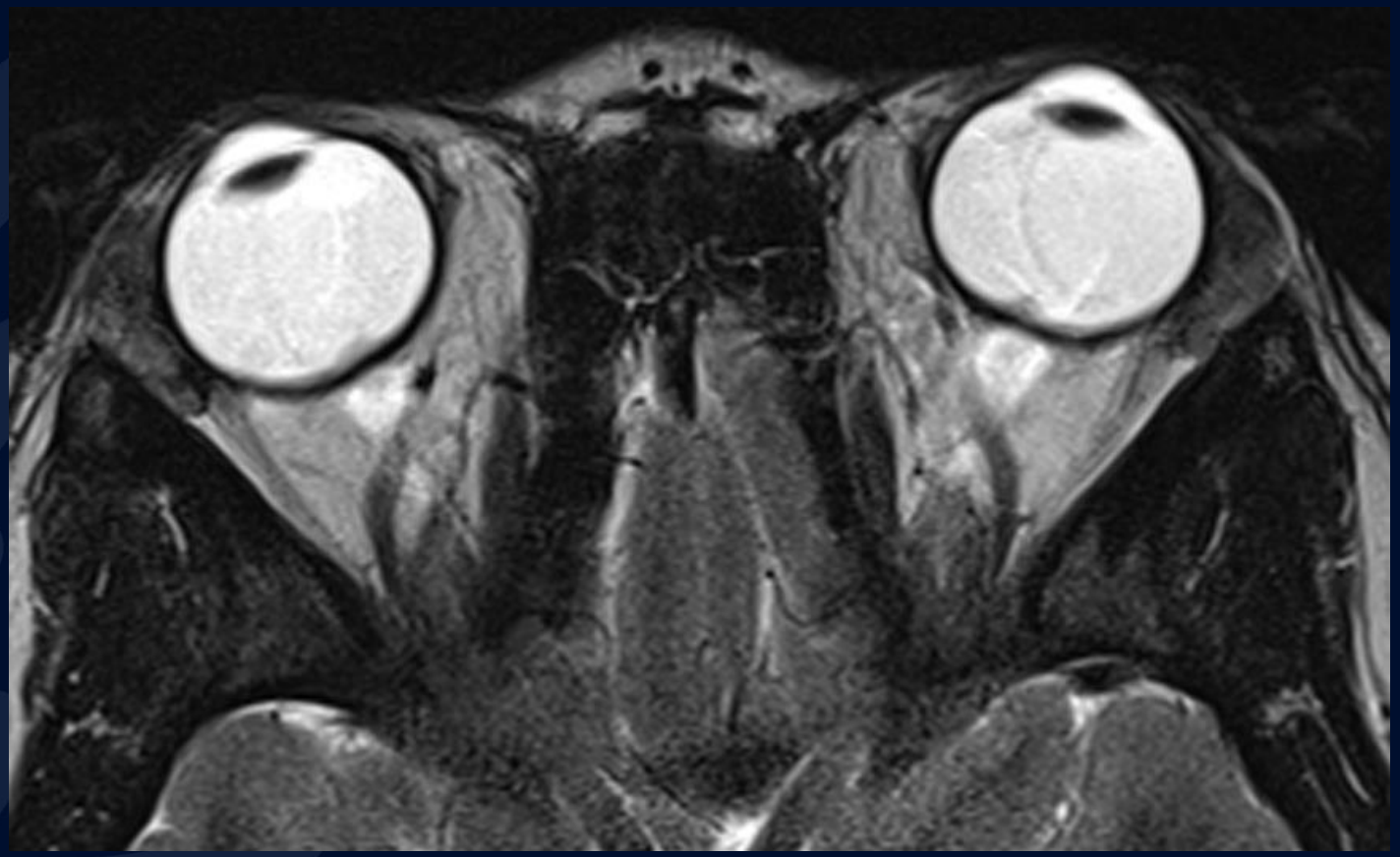

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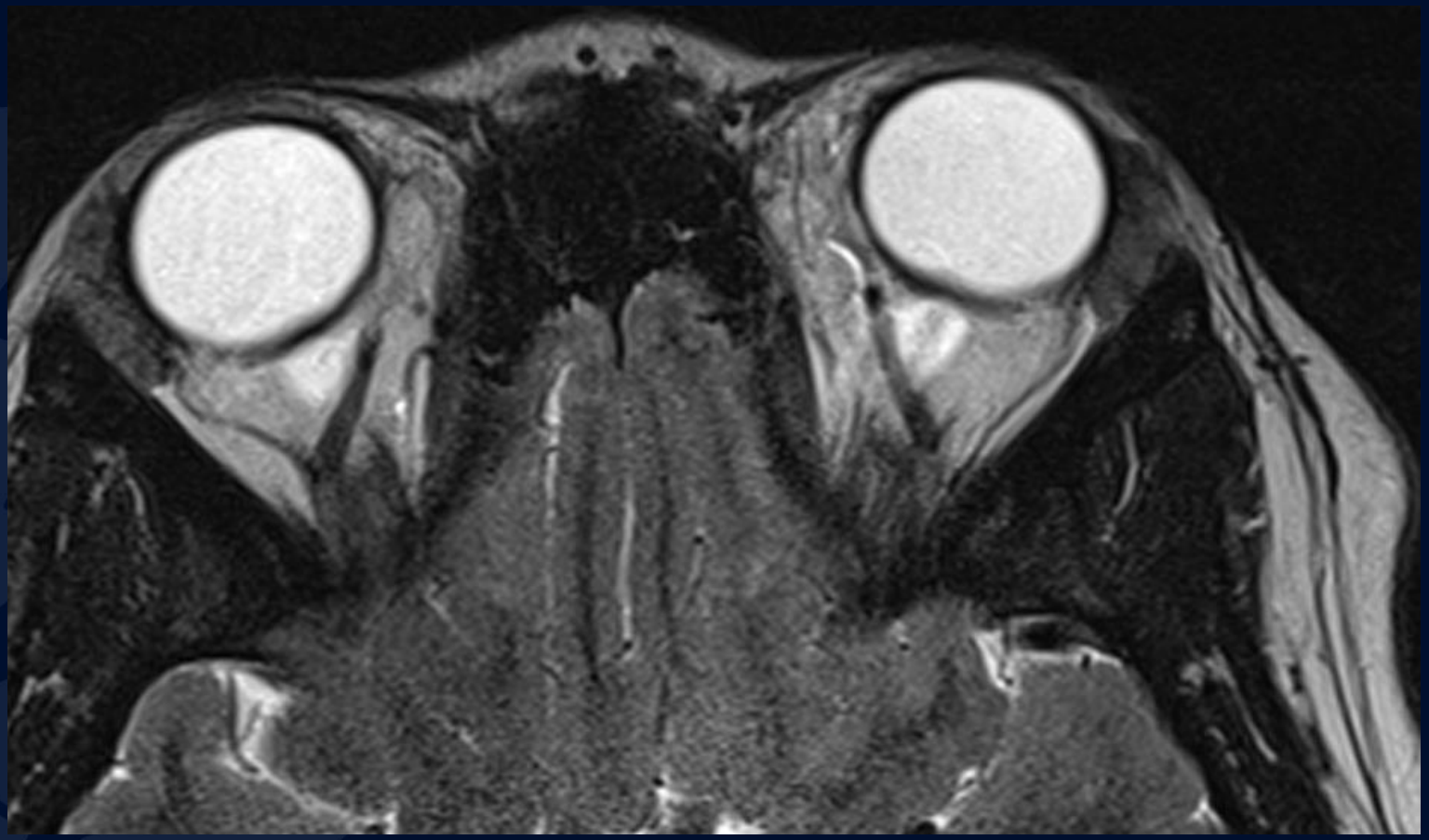

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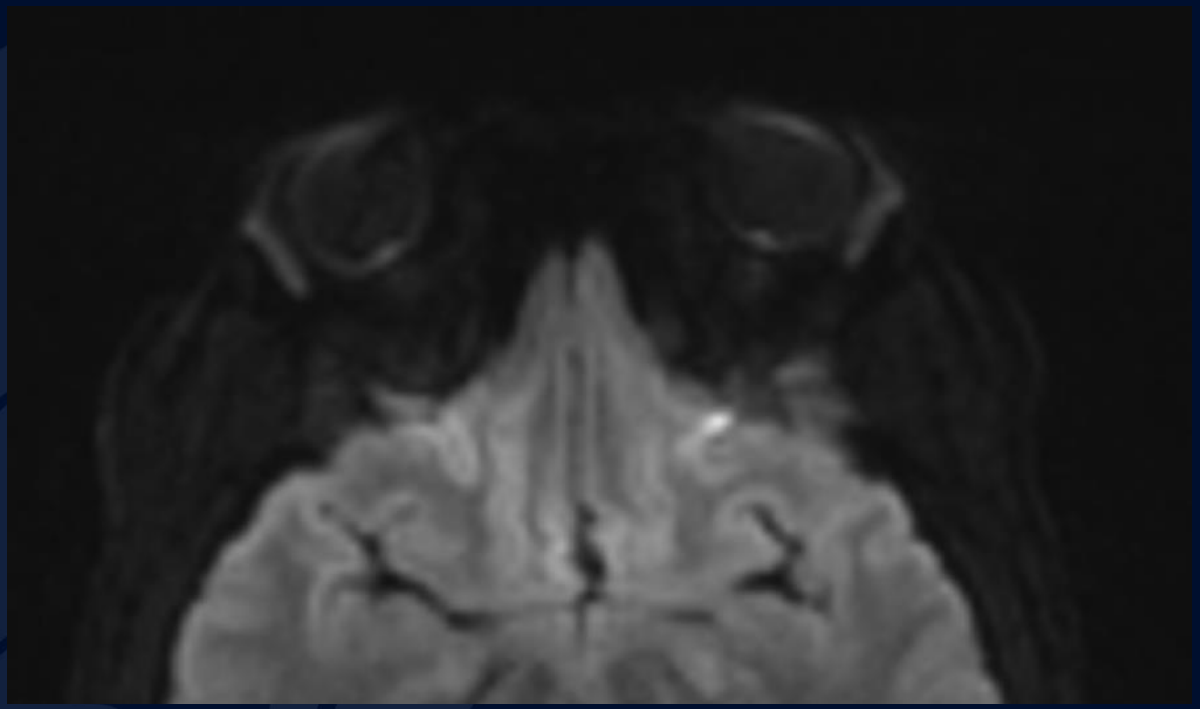

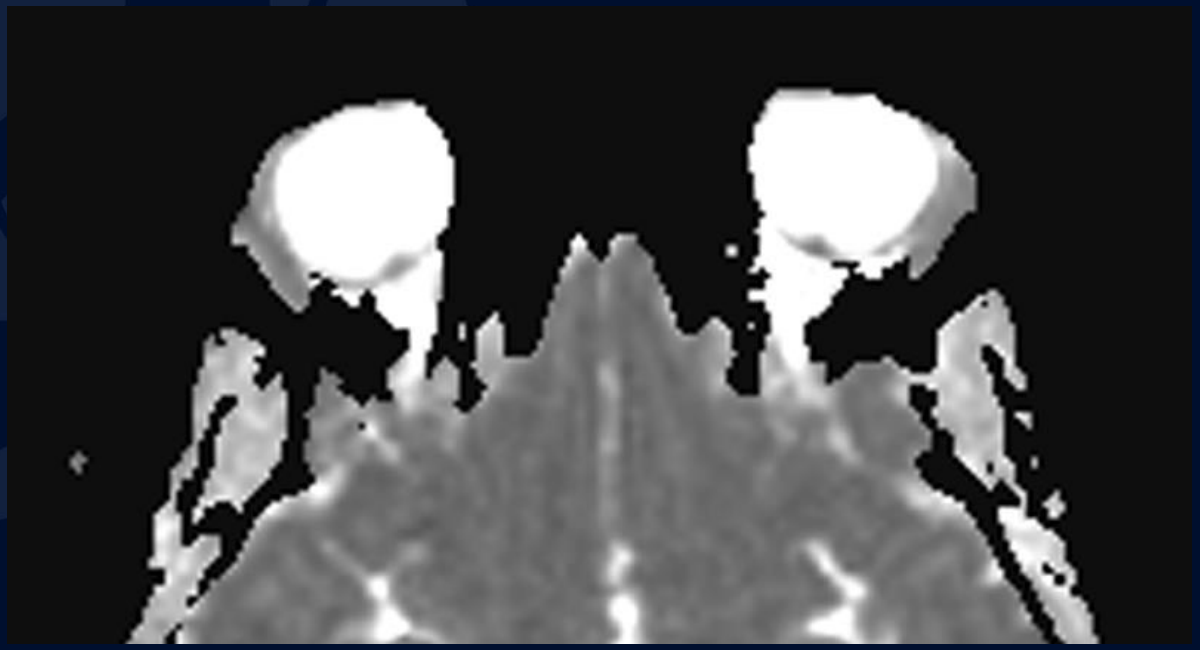

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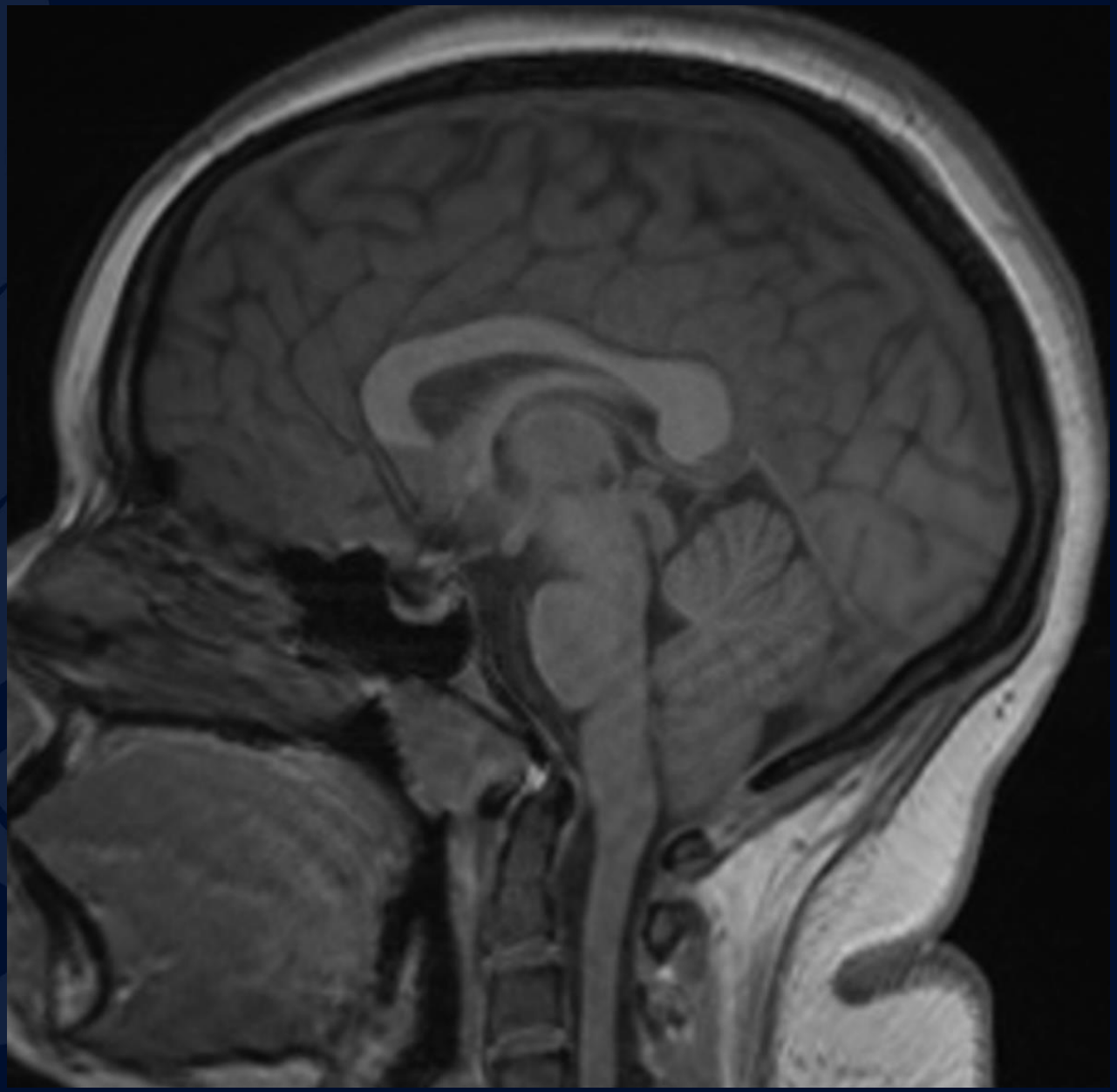

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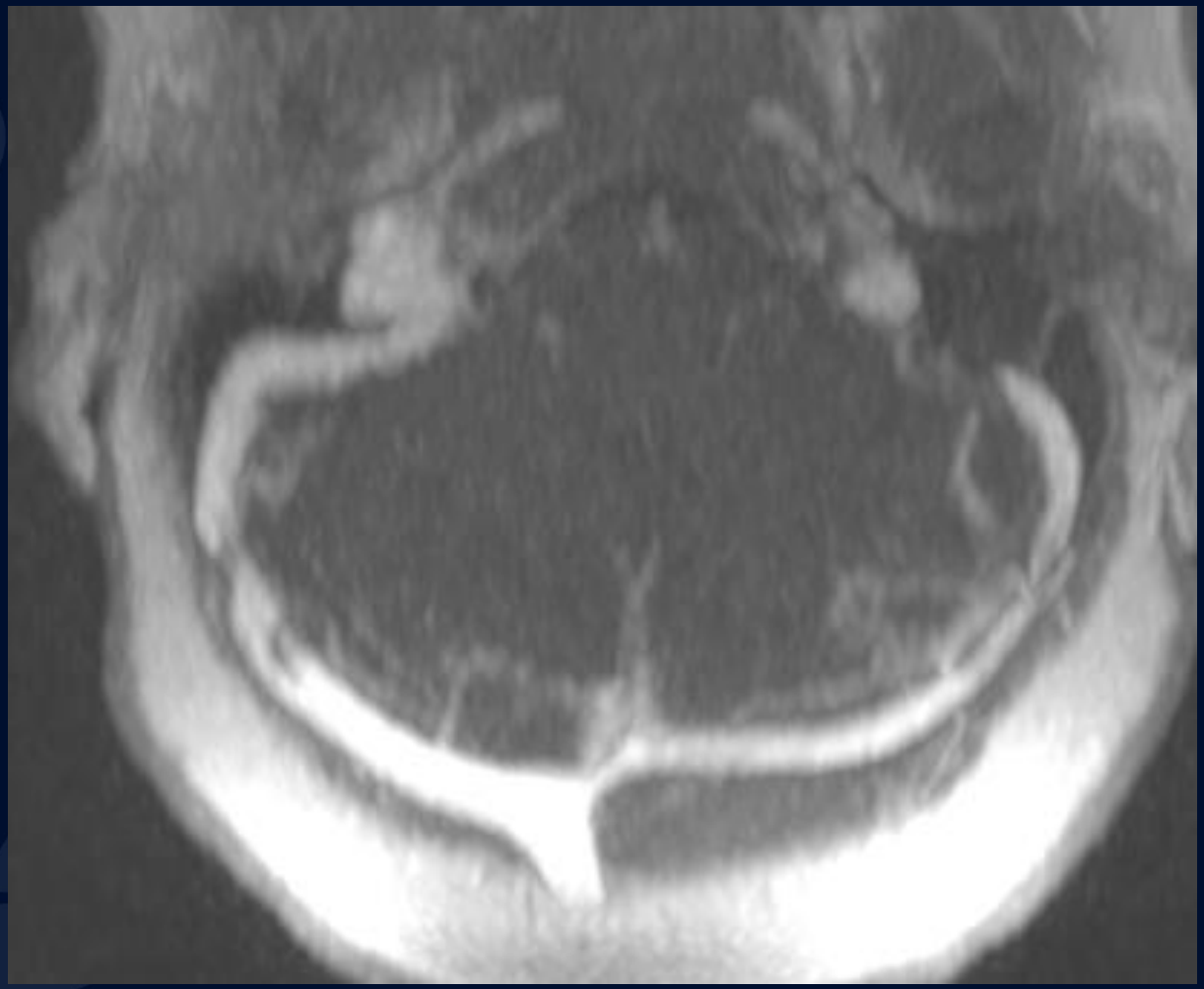

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Idiopathic Intracranial Hypertension (IIH) (Pseudotumor Cerebri)

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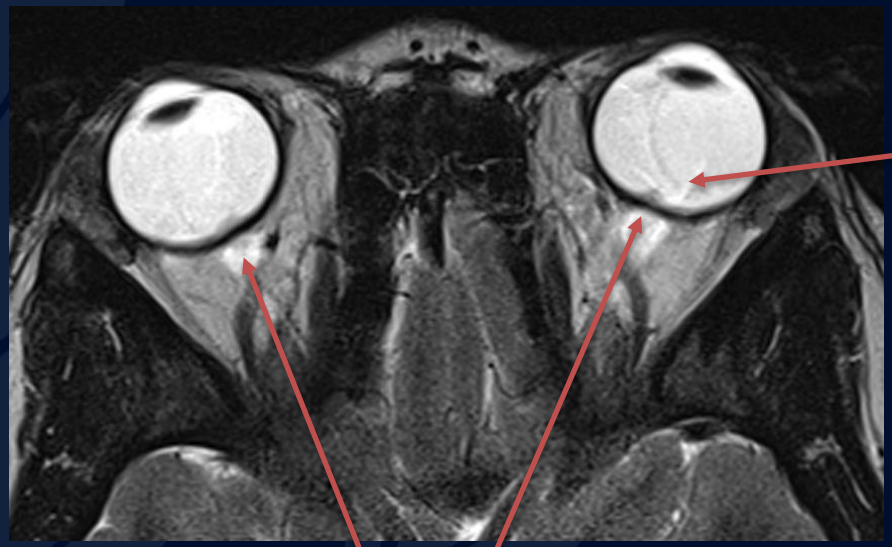
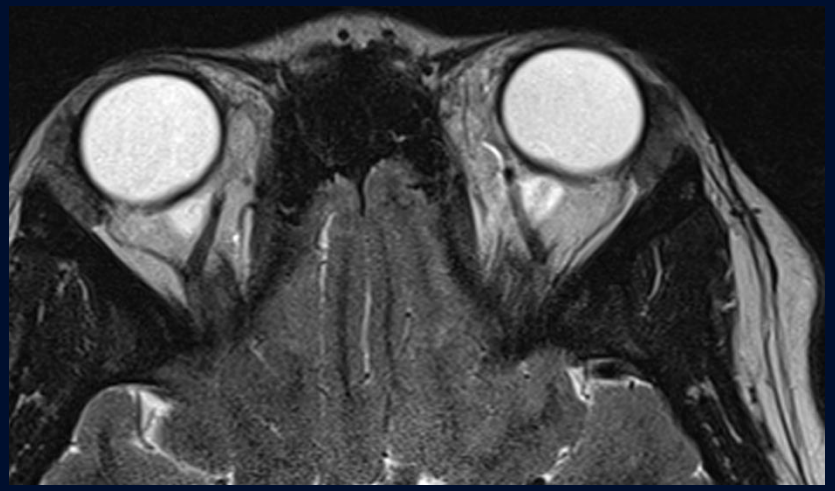


Protrusion of the optic nerve heads bilaterally

Flattening of the posterior globe and prominence of the optic nerve sheath bilaterally



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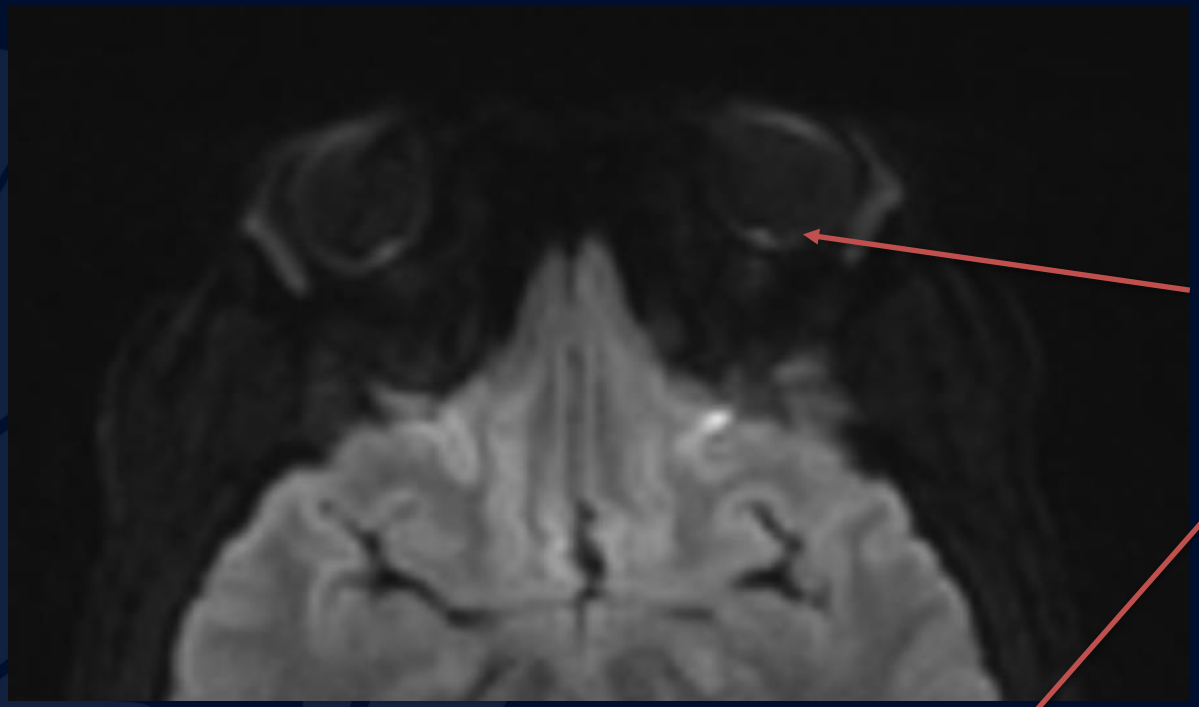

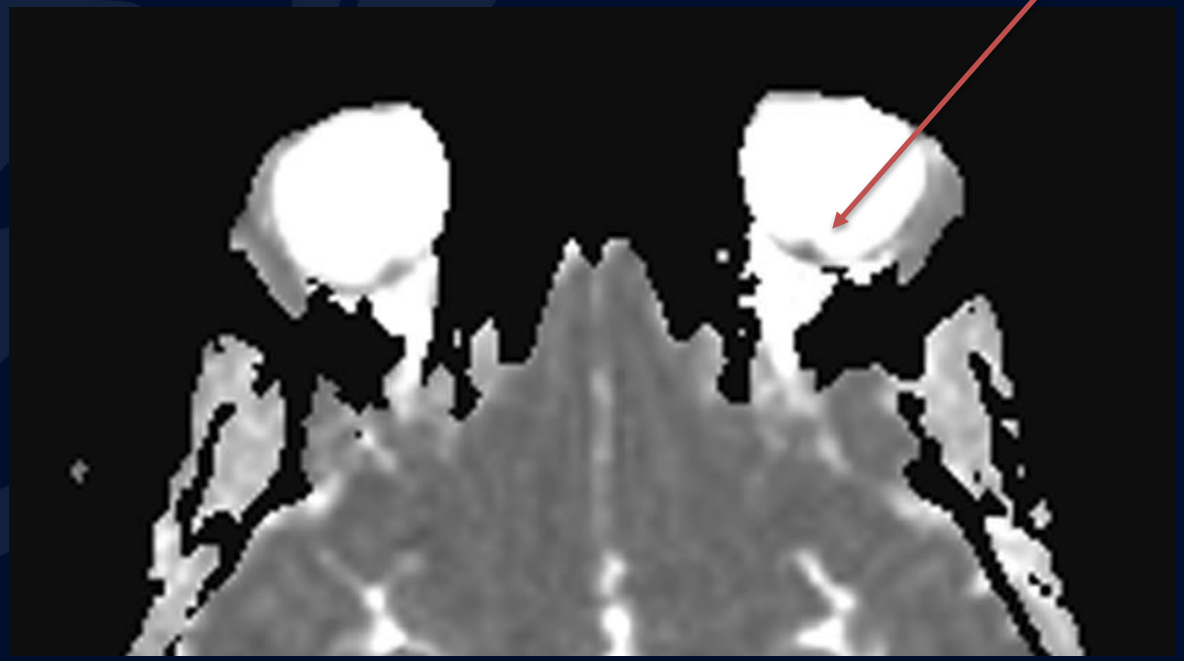

Restricted diffusion of the optic nerve head

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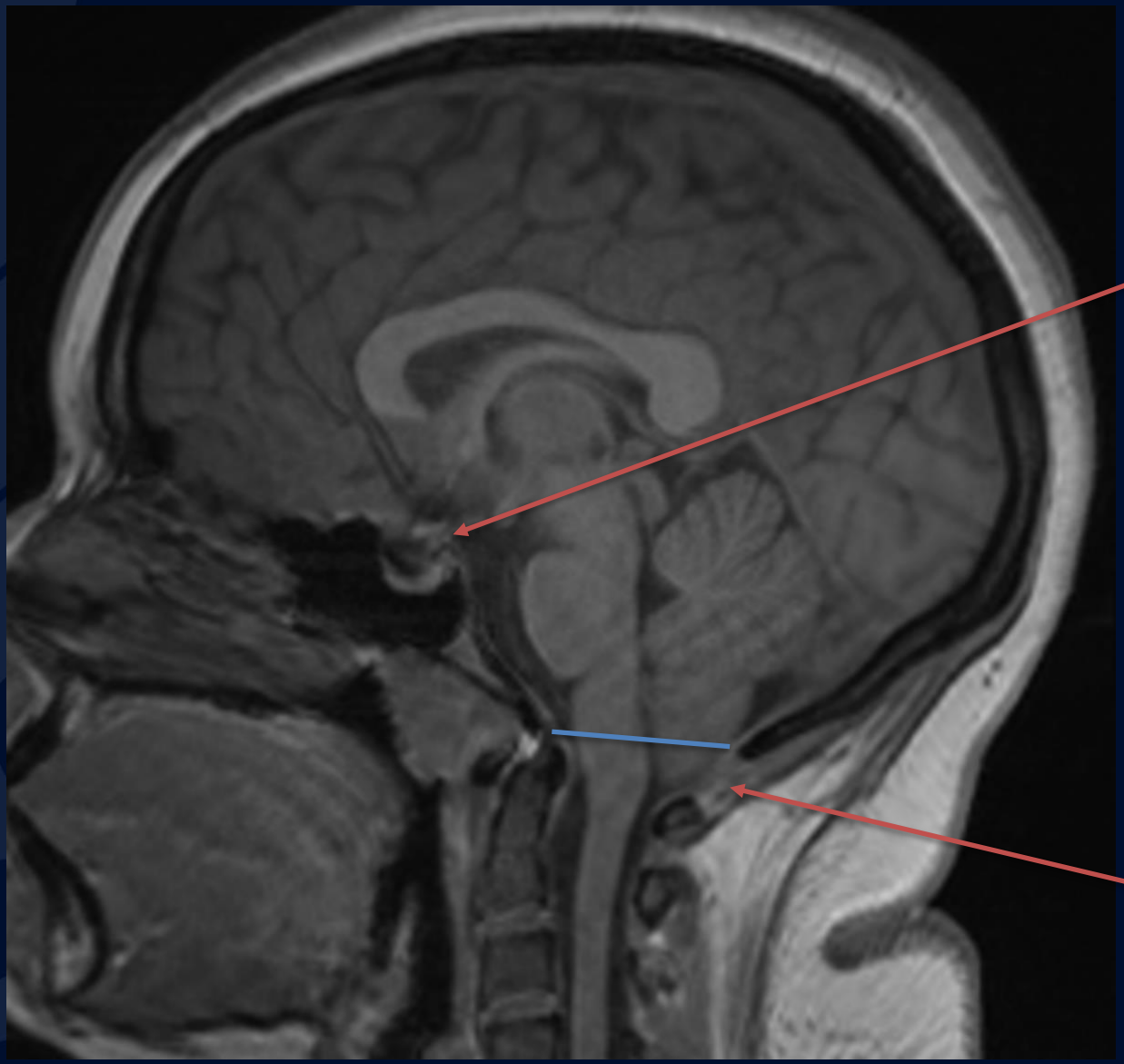

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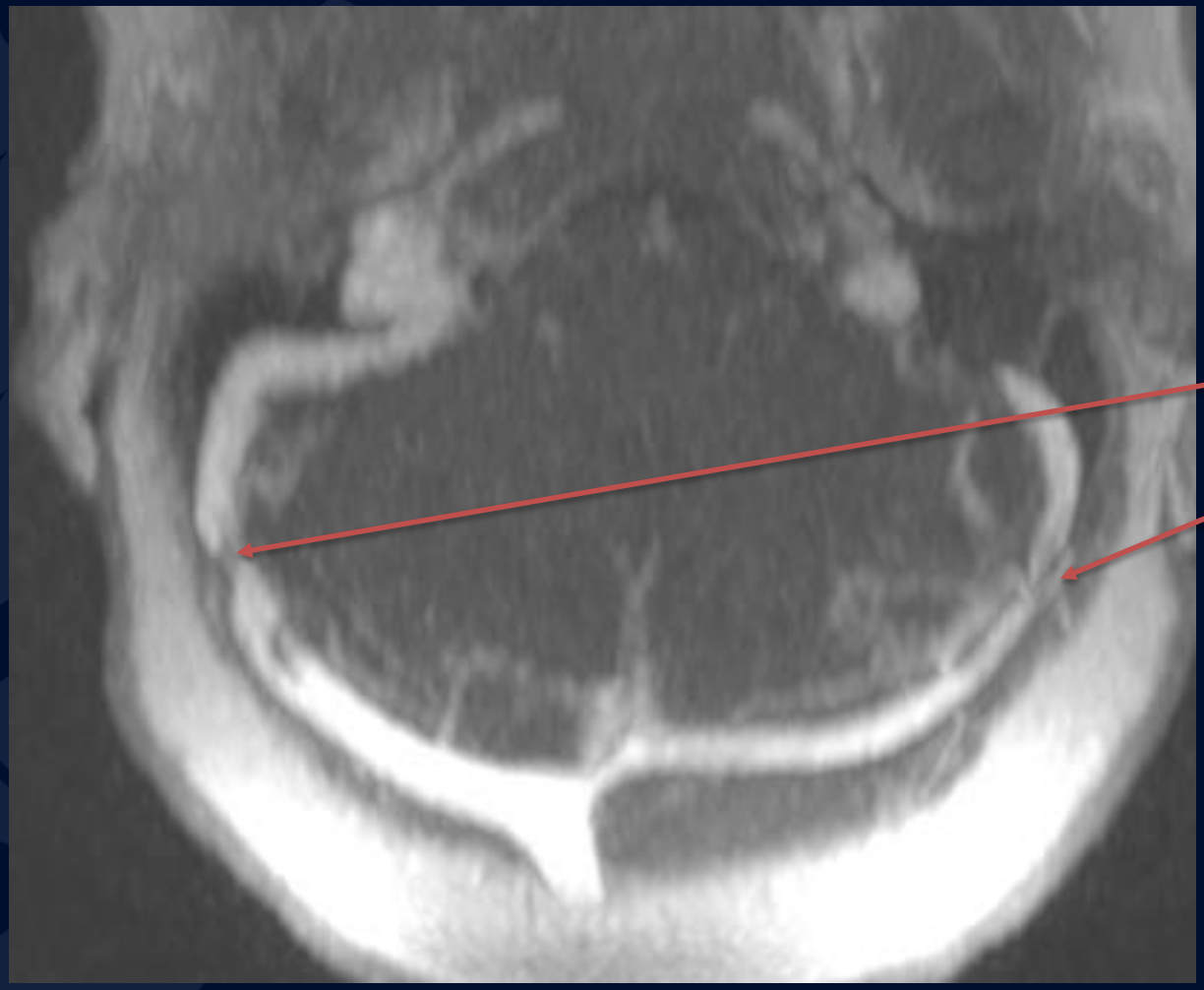

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Idiopathic Intracranial Hypertension

- Idiopathic intracranial hypertension (IIH, also known as pseudotumor cerebri) is an idiopathic condition resulting in elevated intracranial pressure without an underlying structural lesion or other cause identified
- Typical patient presentation is an obese woman of childbearing age presenting with headaches and visual loss
- Symptoms include:
  - Headache
  - Visual obscuration or diplopia
  - Dizziness
  - Pulsatile tinnitus
  - Neck or back pain

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Idiopathic Intracranial Hypertension

- Patients suspected of IIH should be imaged with MRI and MRV of the brain without and with contrast to exclude underlying structural lesion or other causes of elevated ICP
- Several findings on MRI have been associated with IIH with varying sensitivities and specificities. The most common findings are:
  - Empty sella
  - Flattening of the posterior aspect of the globes
  - Protrusion of the optic nerve head
  - Enhancement and diffusion restriction of the optic nerve head
  - Distention of the optic nerve sheath, often with tortuosity
  - Tonsillar herniation
  - Transverse sinus stenosis (often bilateral or unilateral stenosis of the dominant sinus and a hypoplastic contralateral sinus)

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Idiopathic Intracranial Hypertension

- Modified Dandy Criteria
  - Used for diagnosis of IIH
  - “Definite” if patient meets all 5 criteria:
    - Papilledema
    - Normal Neurological examination except for CN findings
    - Normal brain imaging without evidence of hydrocephalus, mass, structural lesion, meningeal enhancement, or sinus thrombosis
    - Normal CSF composition
    - Opening pressure >250 mm water in adults (280 mm water in children)
  - “Probable” if patient meets first 4 criteria, but has lower opening pressure
- In the absence of papilledema or 6th nerve palsy, the diagnosis can be suggested with at least 3 of the following imaging findings:
  - Empty Sella
  - Flattening of the posterior aspect of the globe
  - Distention of the perioptic subarachnoid space with or without a tortuous optic nerve
  - Transverse sinus stenosis

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References

- Bidot, et al. Brain Imaging in Idiopathic Intracranial Hypertension. Journal of Neuro-Ophthalmology 2015;35:400–411

- Nagarajan et al. Is Magnetic Resonance Imaging Diffusion Restriction of the Optic Disc Head a New Marker for Idiopathic Intracranial Hypertension? J Neurosci Rural Pract 2020 Jan; 11(1): 170–174.

- Ollenschleger M. Idiopathic Intracranial Hypertension. Radiology Online (2021)

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