10 y/o with blurry vision, vomiting, and headache

Jignesh Modi, MD

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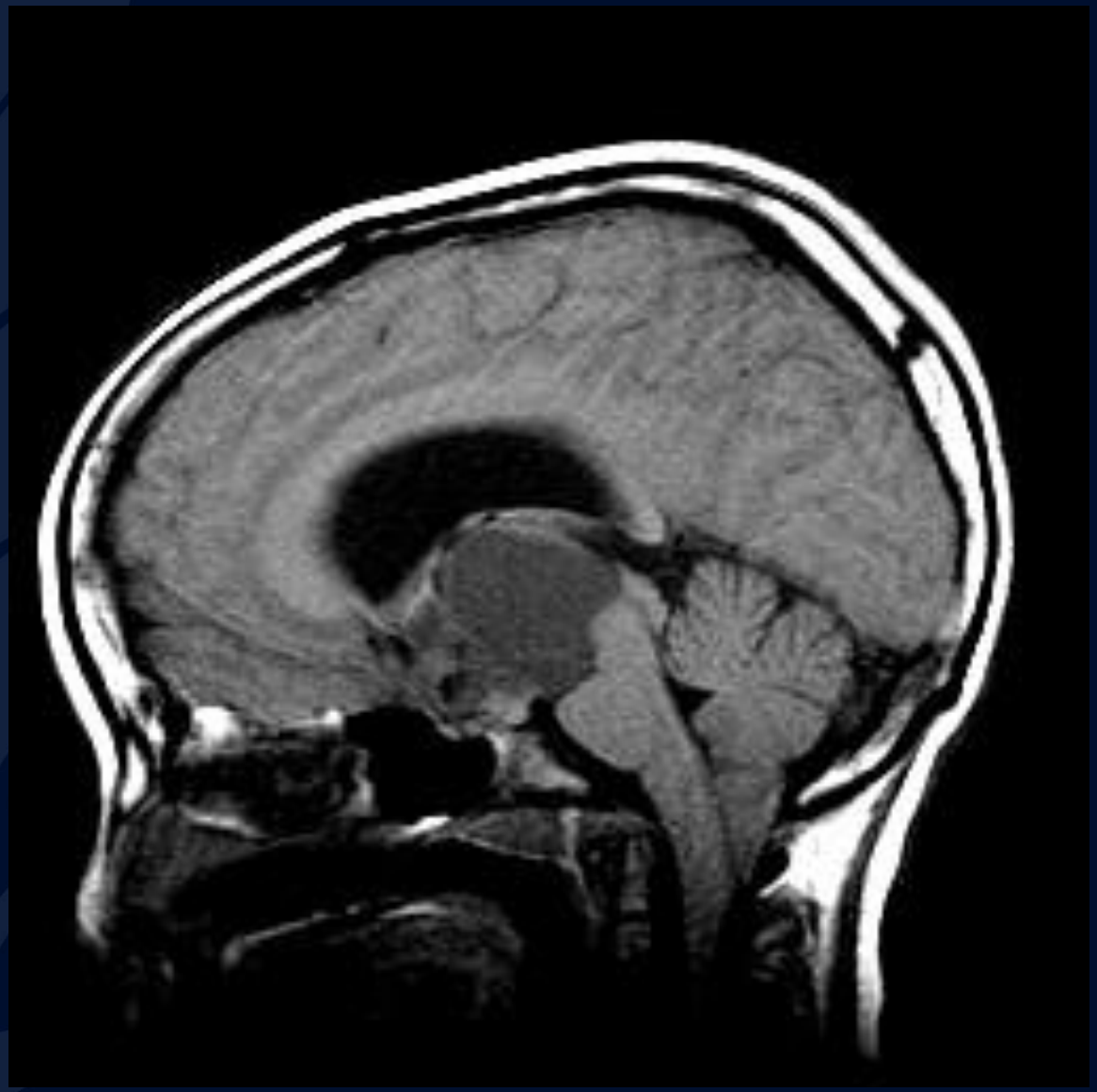

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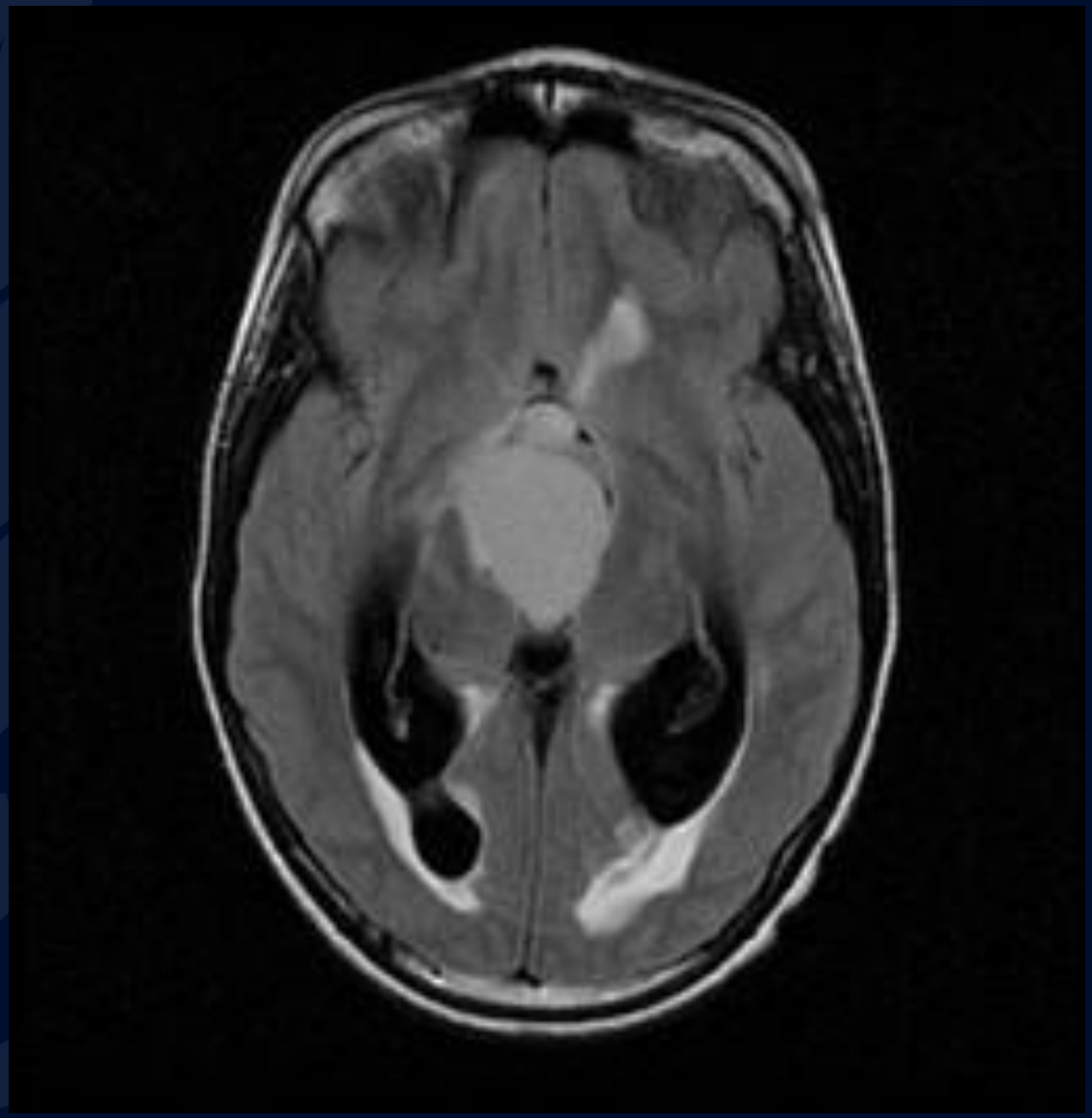

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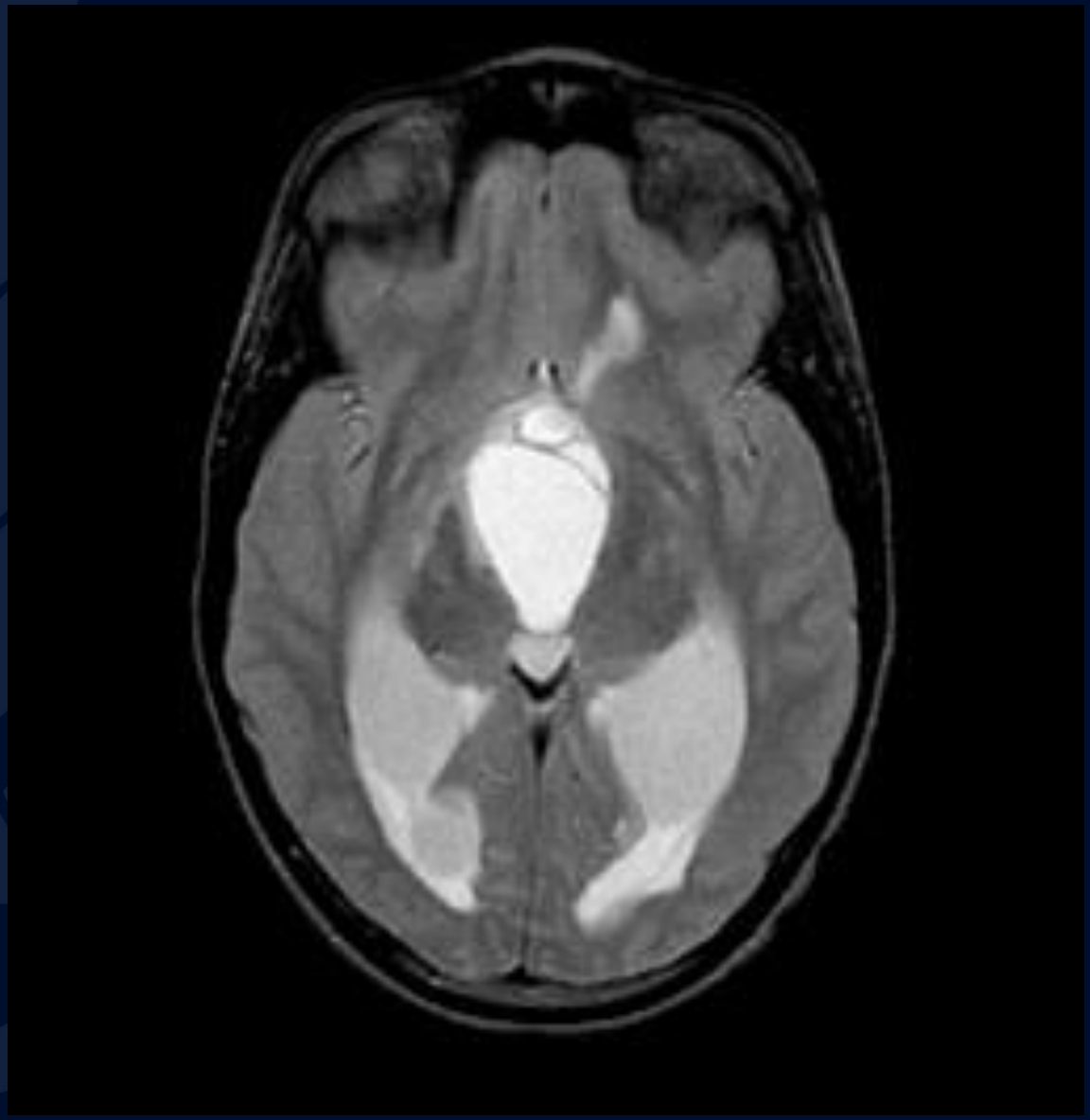

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Craniopharyngioma

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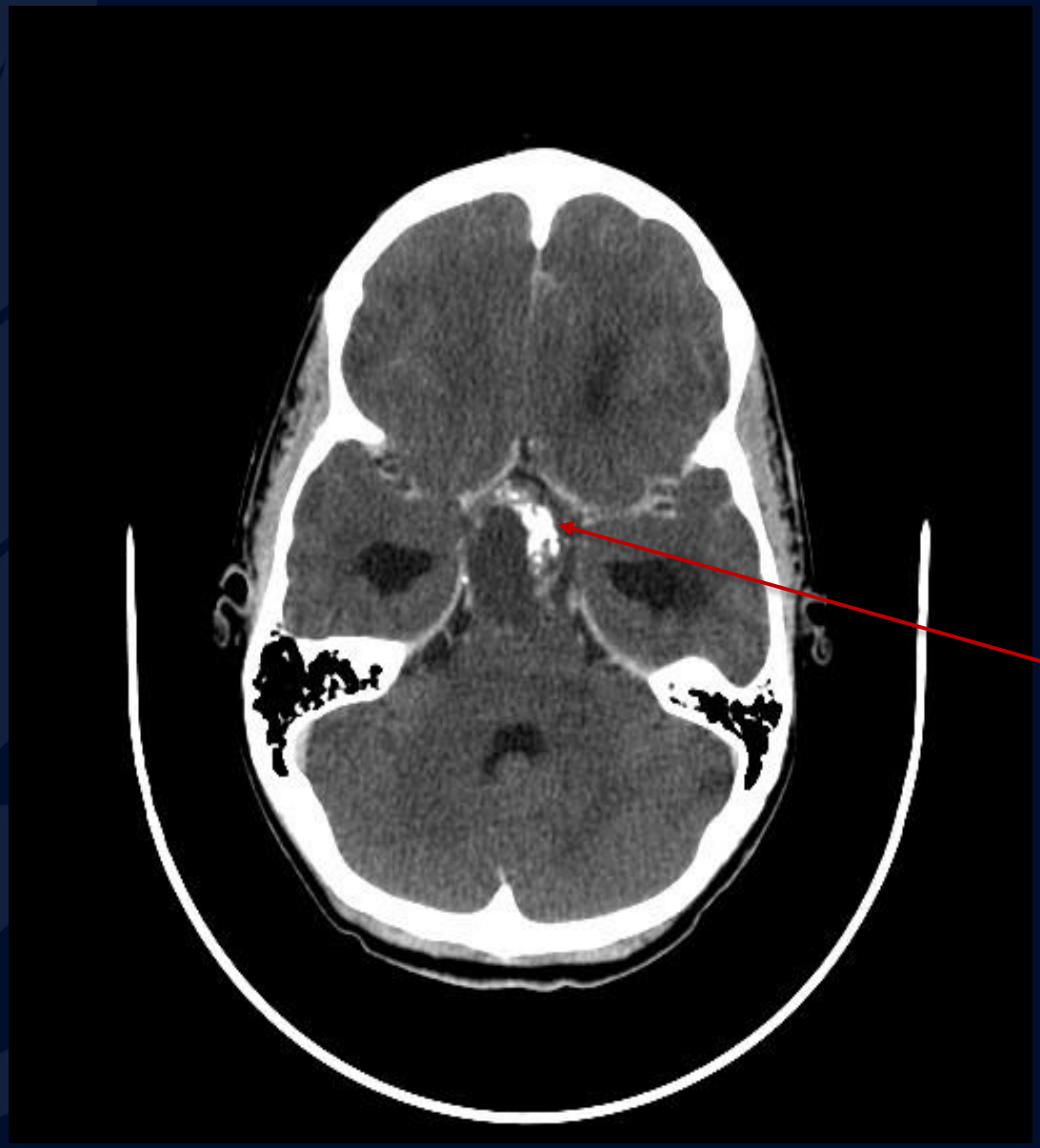

Axial contrast enhanced CT

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Sagittal T1 Pre-Contrast

Sagittal T1 Pre-Contrast

Cystic Suprasellar Mass

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Cystic Suprasellar Mass

Sagittal T1 Post-Contrast

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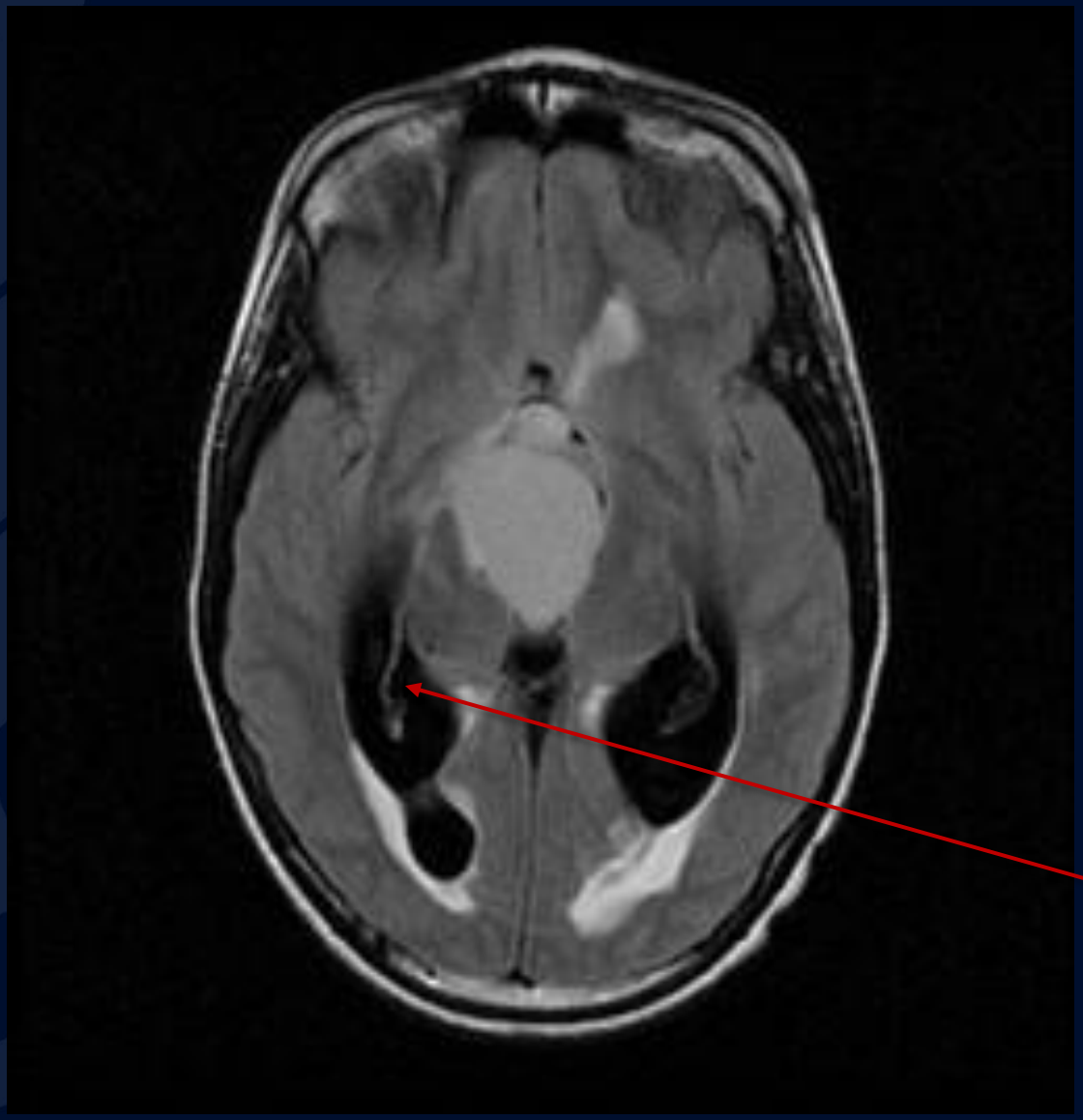

Hydrocephalus

Axial Flair

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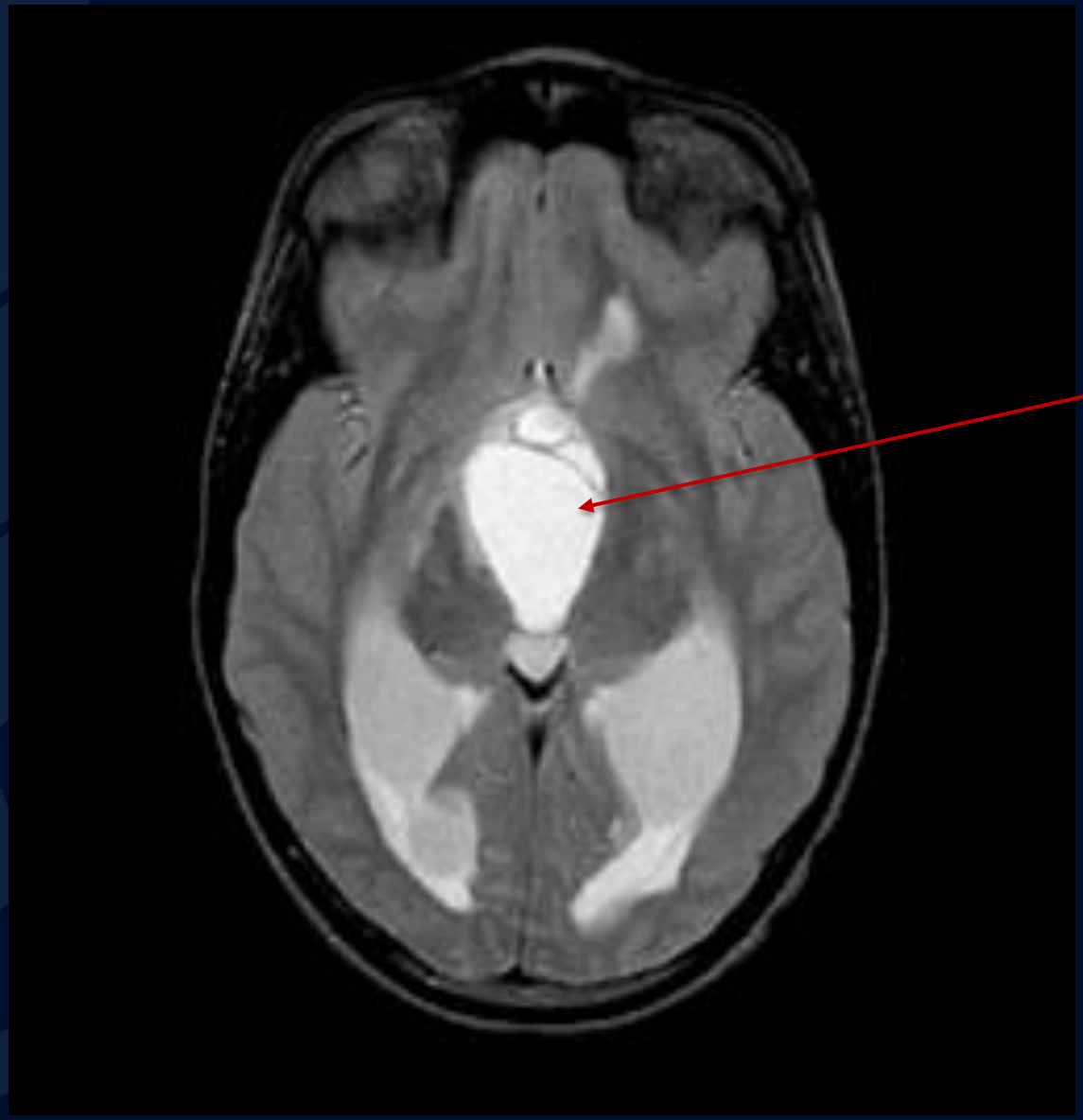

Axial T2

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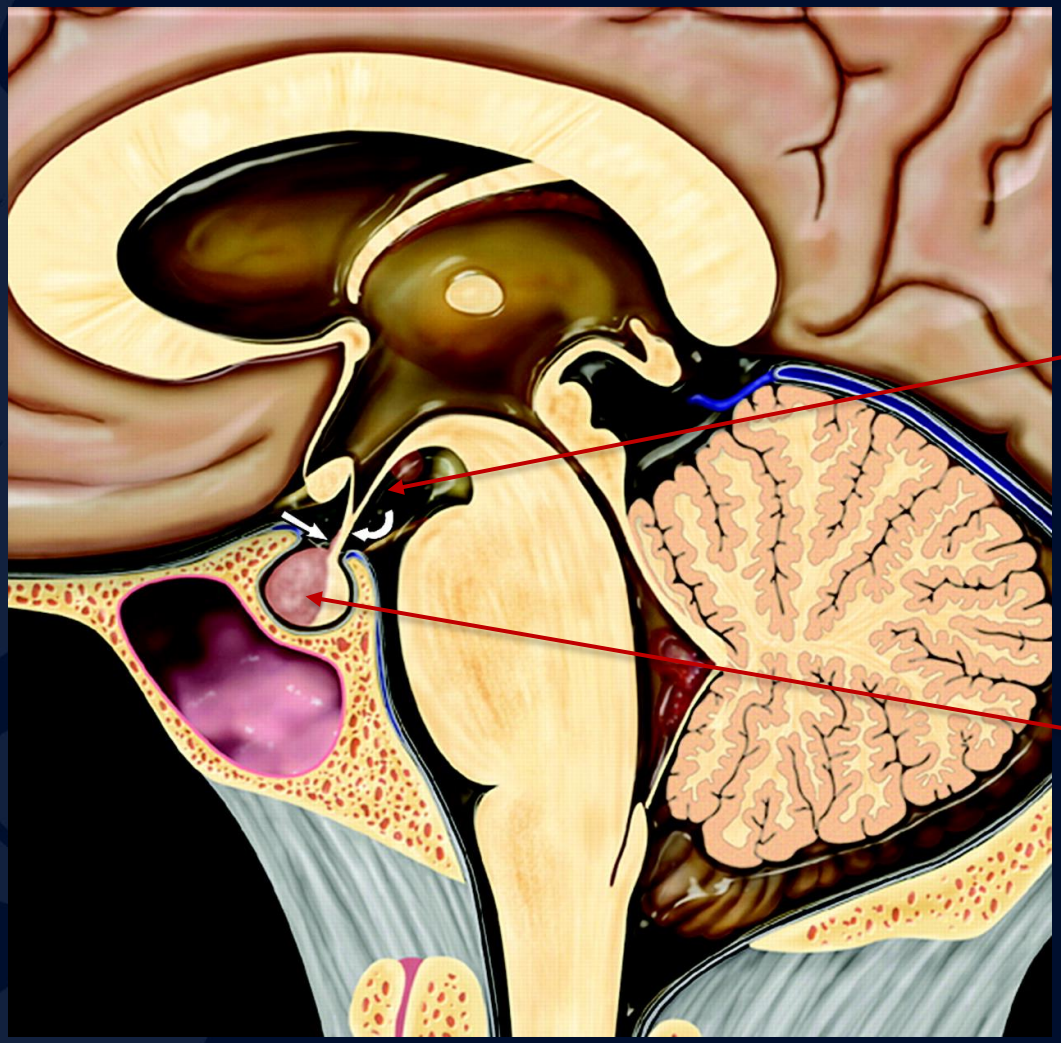

Schematic of pituitary anatomy

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Craniopharyngioma

- Slow-growing, benign, dysontogenetic epithelial tumor derived from Rathke's cleft.
- Two histologic **subtypes**
  - **Papillary**: less prevalent, typically seen in adults.
  - **Adamantinomatous**: more prevalent in all age groups, typically seen in children. Classic presentation is a child with morning headache, visual disturbance, and short stature.
- Approximately 54% of all pediatric sellar and suprasellar lesions, peak age is 5-10 yrs, second small peak in 6th decade of life.

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Imaging Features

- Adamantinomatous
  - CT: **multilobulated, multicystic, partially calcified** mass.
  - CTA: vascular displacement and encasement.
  - MR: hyperintense cysts and heterogenous nodule.
- Papillary
  - CT: predominantly solid +/- cystic component, isodense, rarely calcify. Solid component and cyst wall avidly enhance.

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Treatment

- Cranipharyngiomas are generally benign and rarely undergo malignant transformation.
- Both subtypes are considered WHO grade I tumors.
- Complete resection can be curative, however, treatment often also incorporates irradiation.
- Surgical resection via craniotomy or endoscopically– via endonasal/transsphenoidal approach, when feasible, however endoscopic transsphenoidal approach can be more challenging given incomplete development of the sphenoid sinus.
- Surgical management, especially in children, remains controversial.
- Imaging is critical in evaluating this tumor with regards to tumor location and adjacent structure involvement– tumor involvement of and/or proximity to frontal, temporal lobes, ventricle, optic chiasm and nerves, hypothalamus, pituitary gland, circle of willis, and brain stem all impact treatment plan

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References

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2. Applied Radiology. 2021;50(5);58-60. cdn.agilitycms.com

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