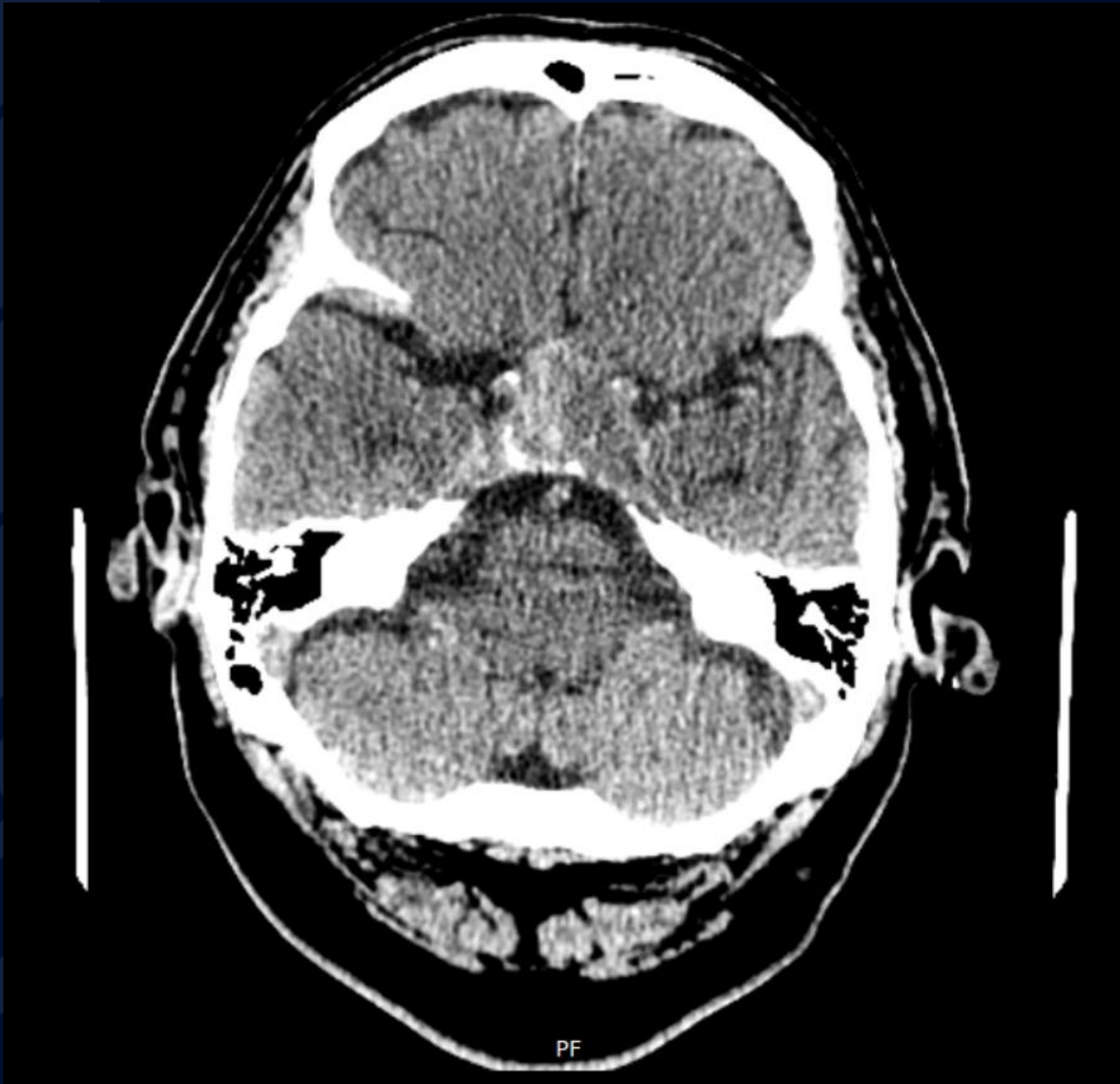


64-year-old male with new onset of severe headache & double vision

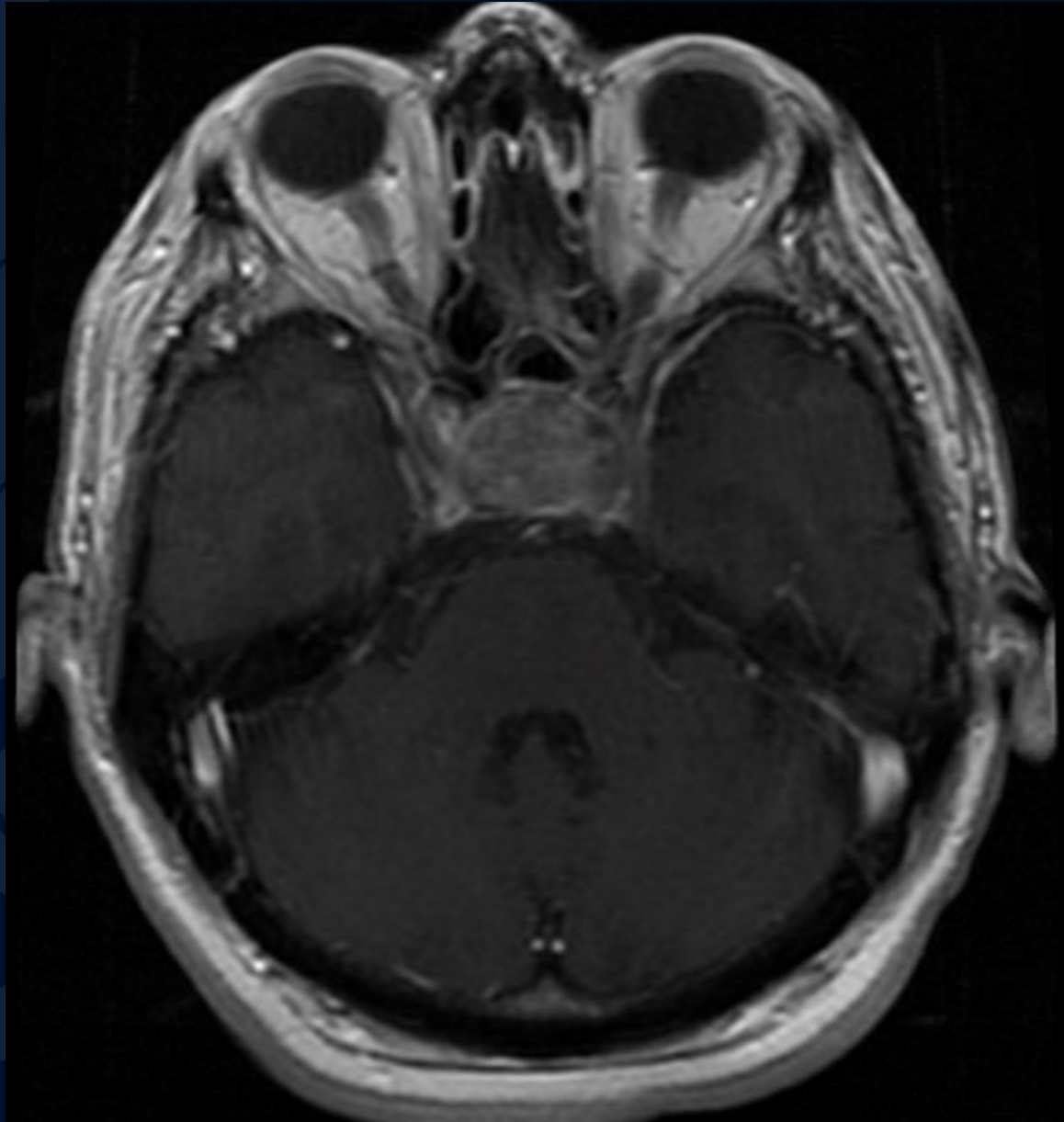
Kaitlin Lipner, MD

Brad Kincaid, MD

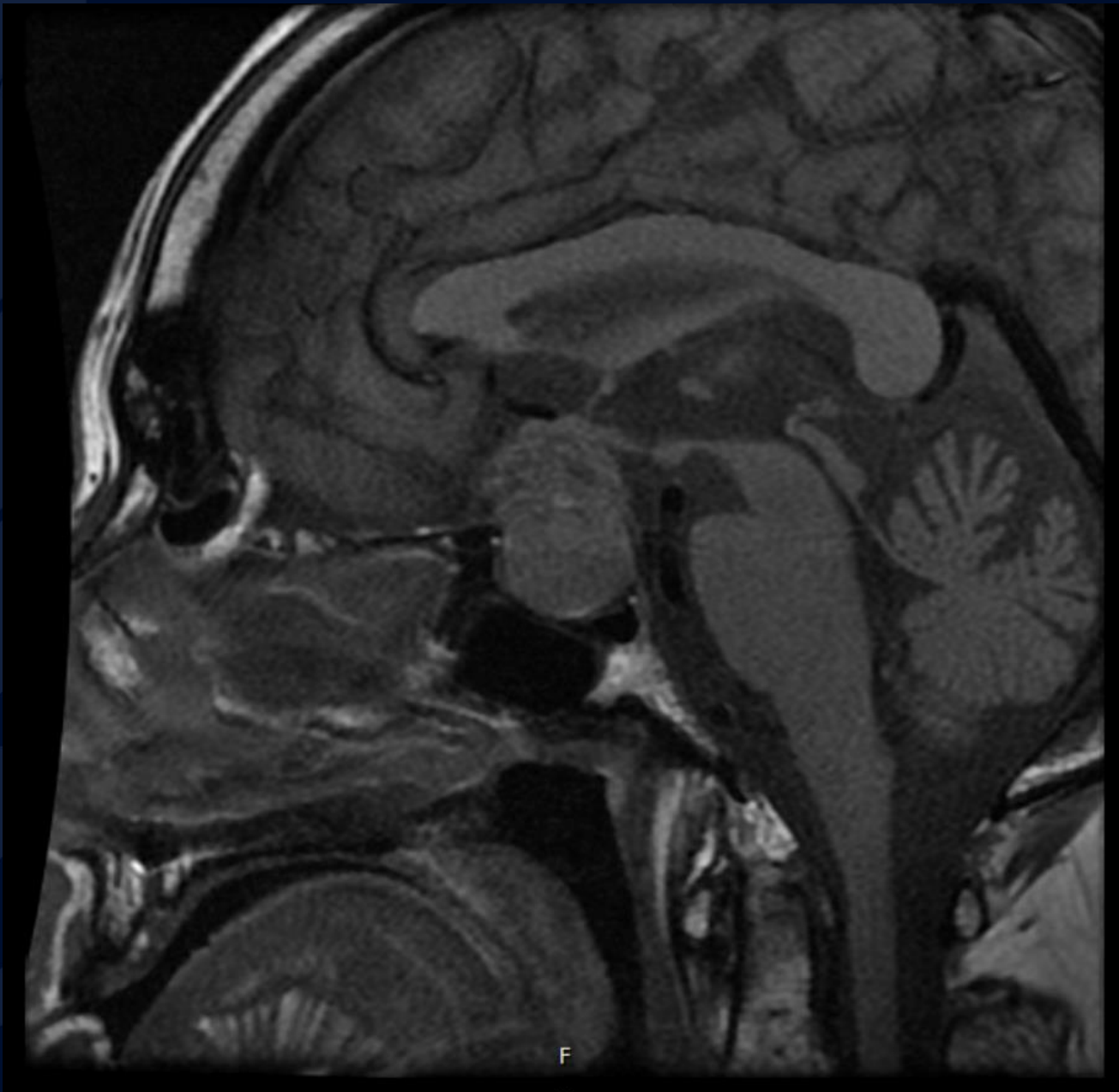
Leo Wolansky, MD



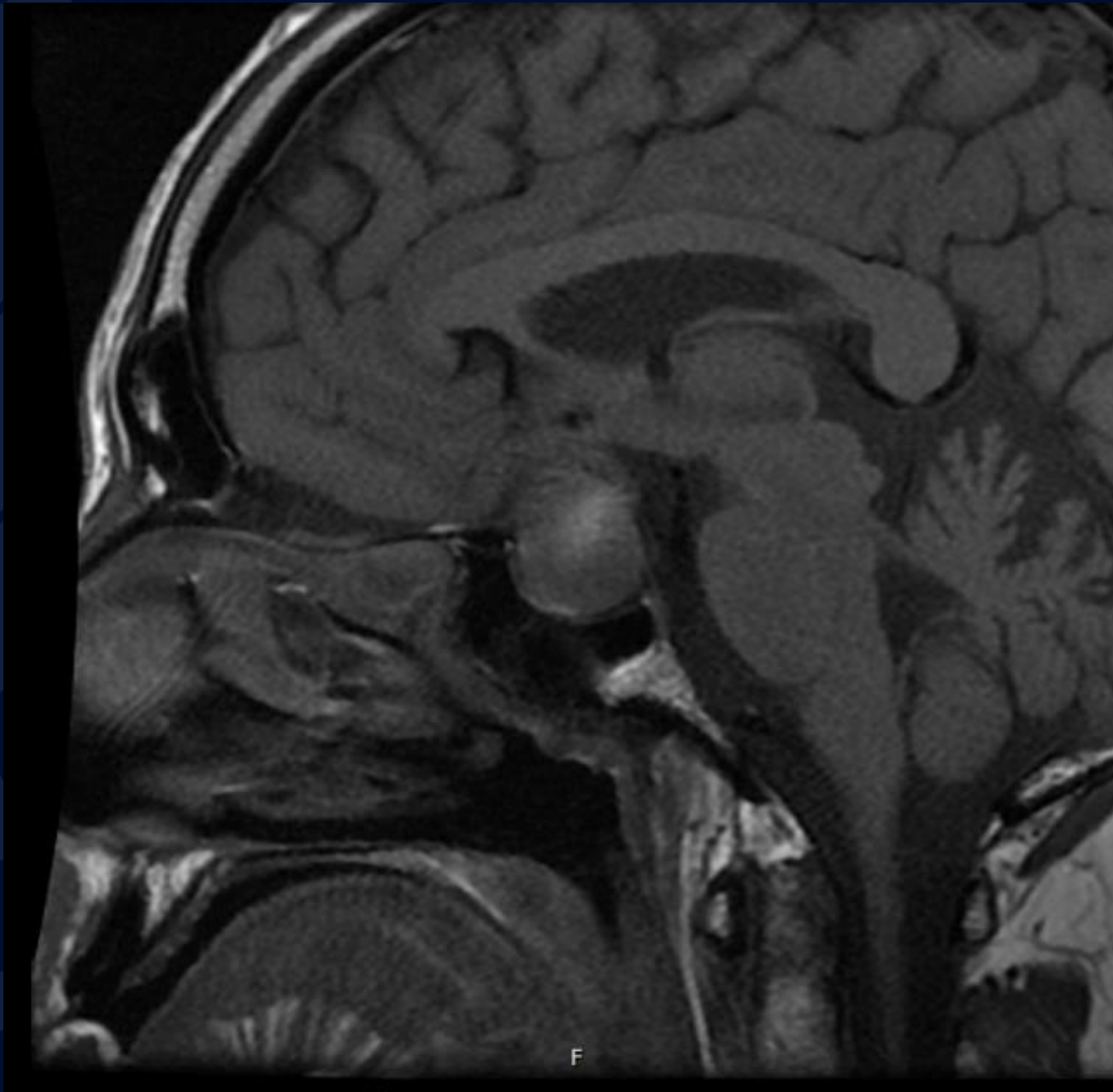
CT Head Non-
Contrast



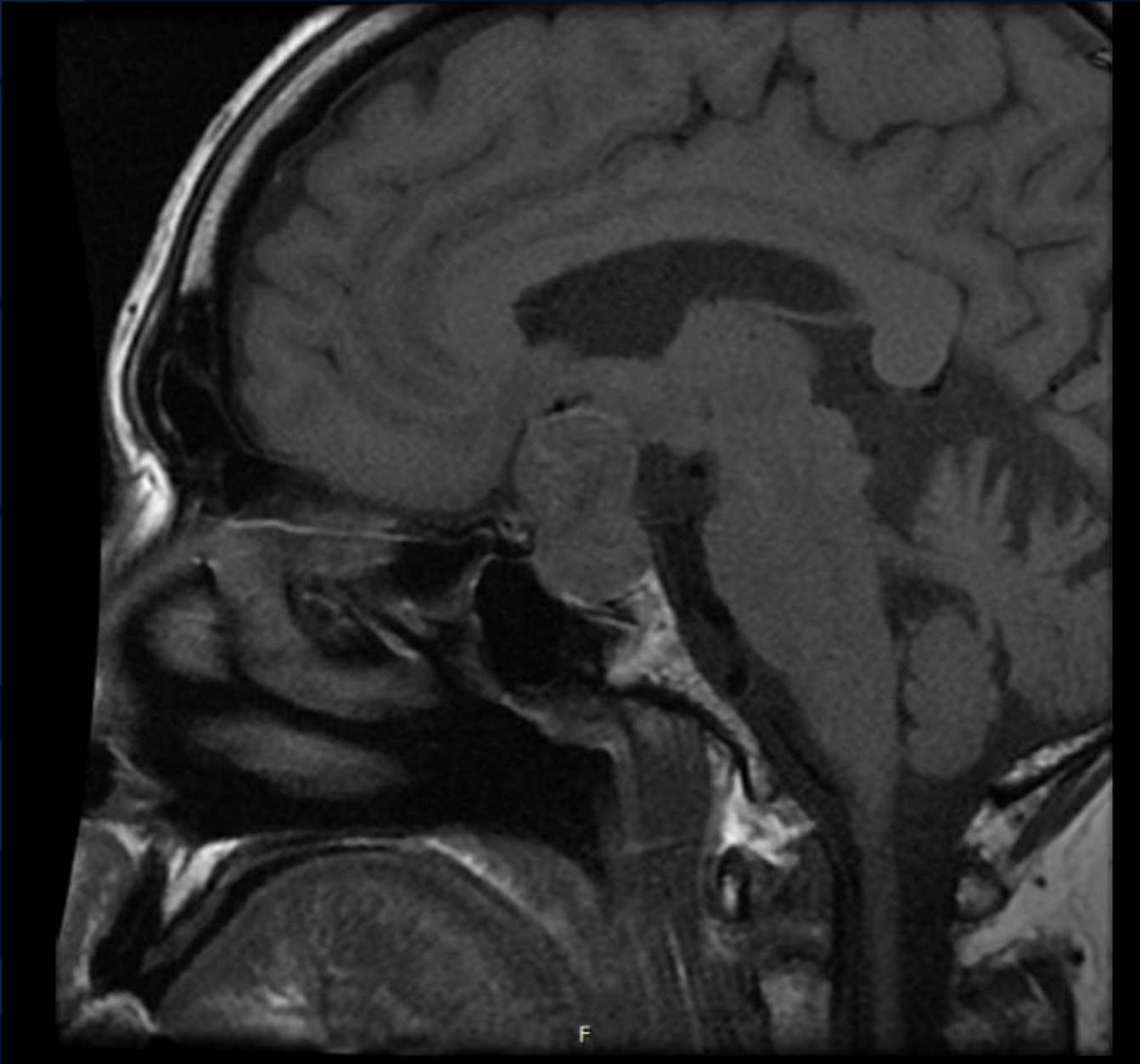
Axial MRI T1



Sagittal MRI
T1



Sagittal MRI
T1



Sagittal MRI
T1



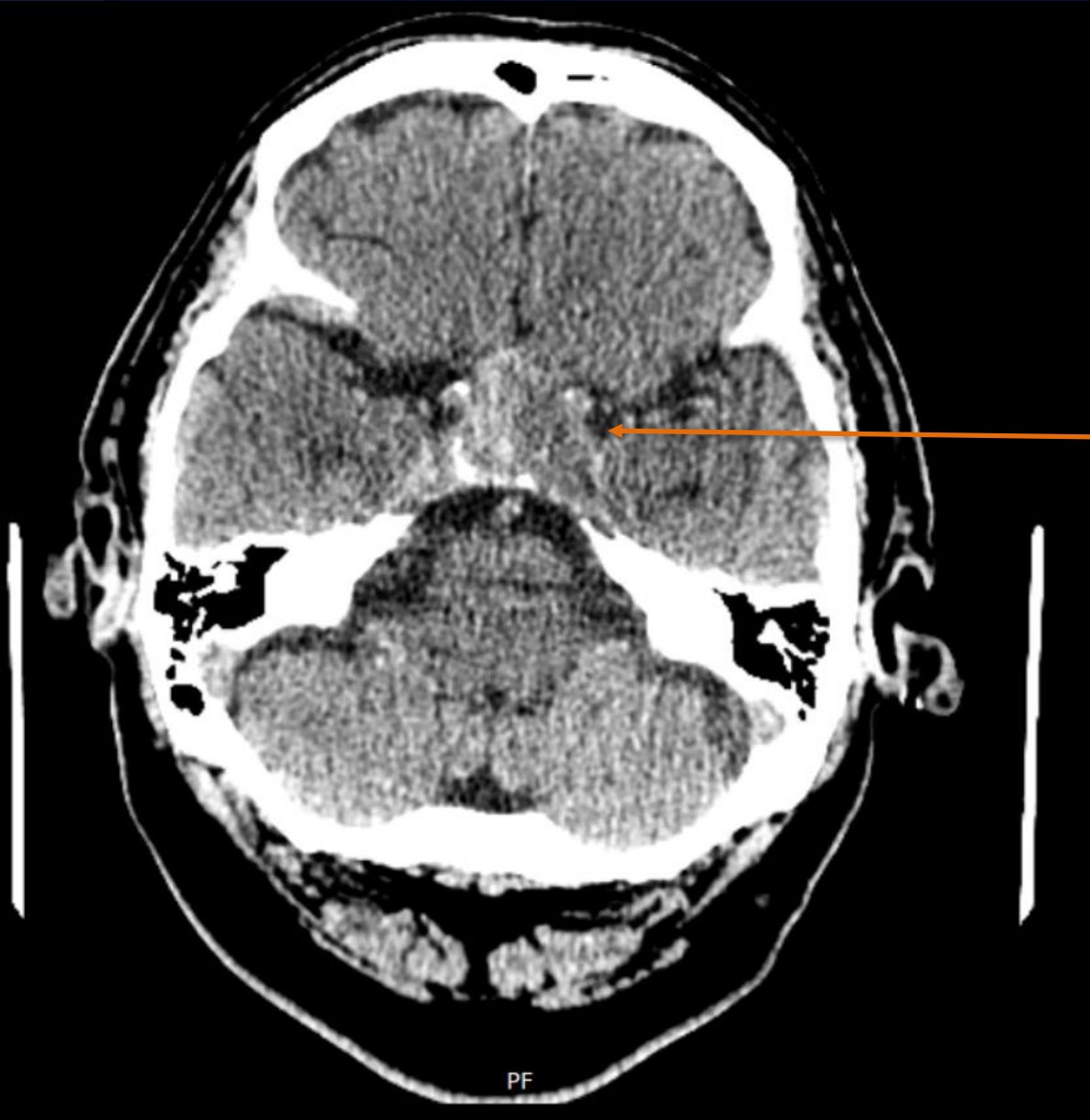
?

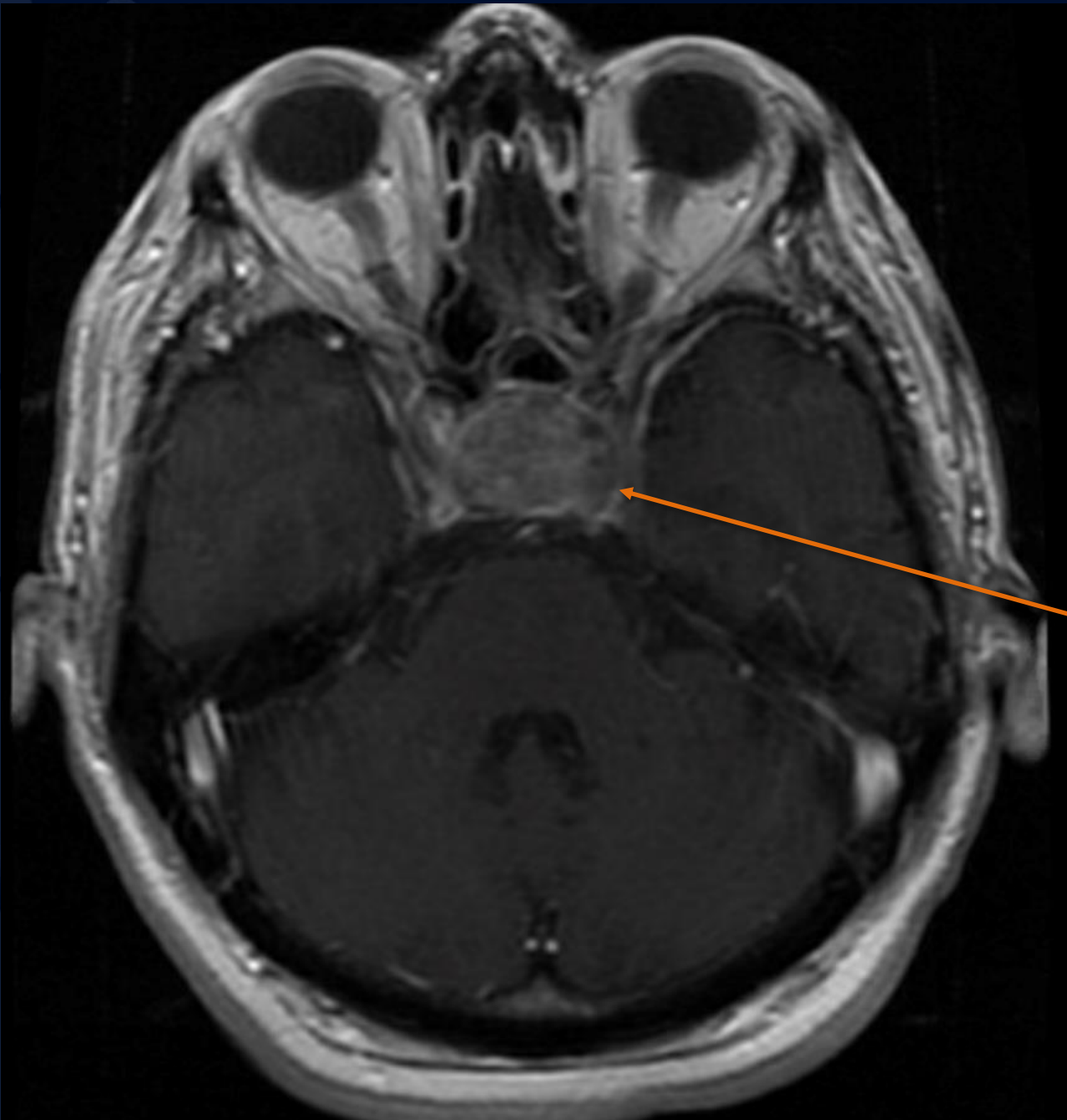
A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide, partially overlapping the title text.

Pituitary Apoplexy: Pituitary Macroadenoma

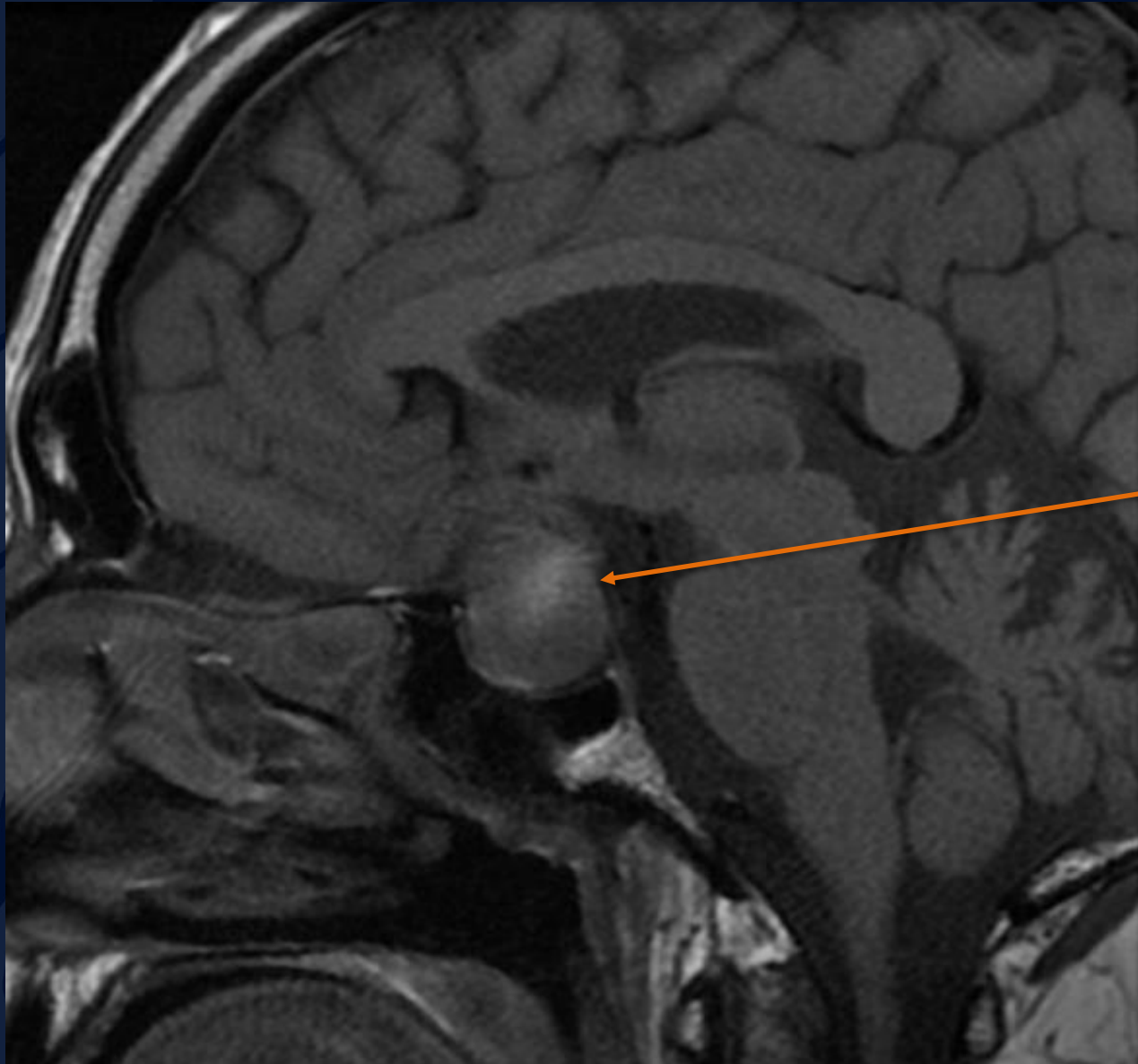
Large mass in the location of the pituitary gland.

Hyperdense blood in the mass and in the suprasellar cistern

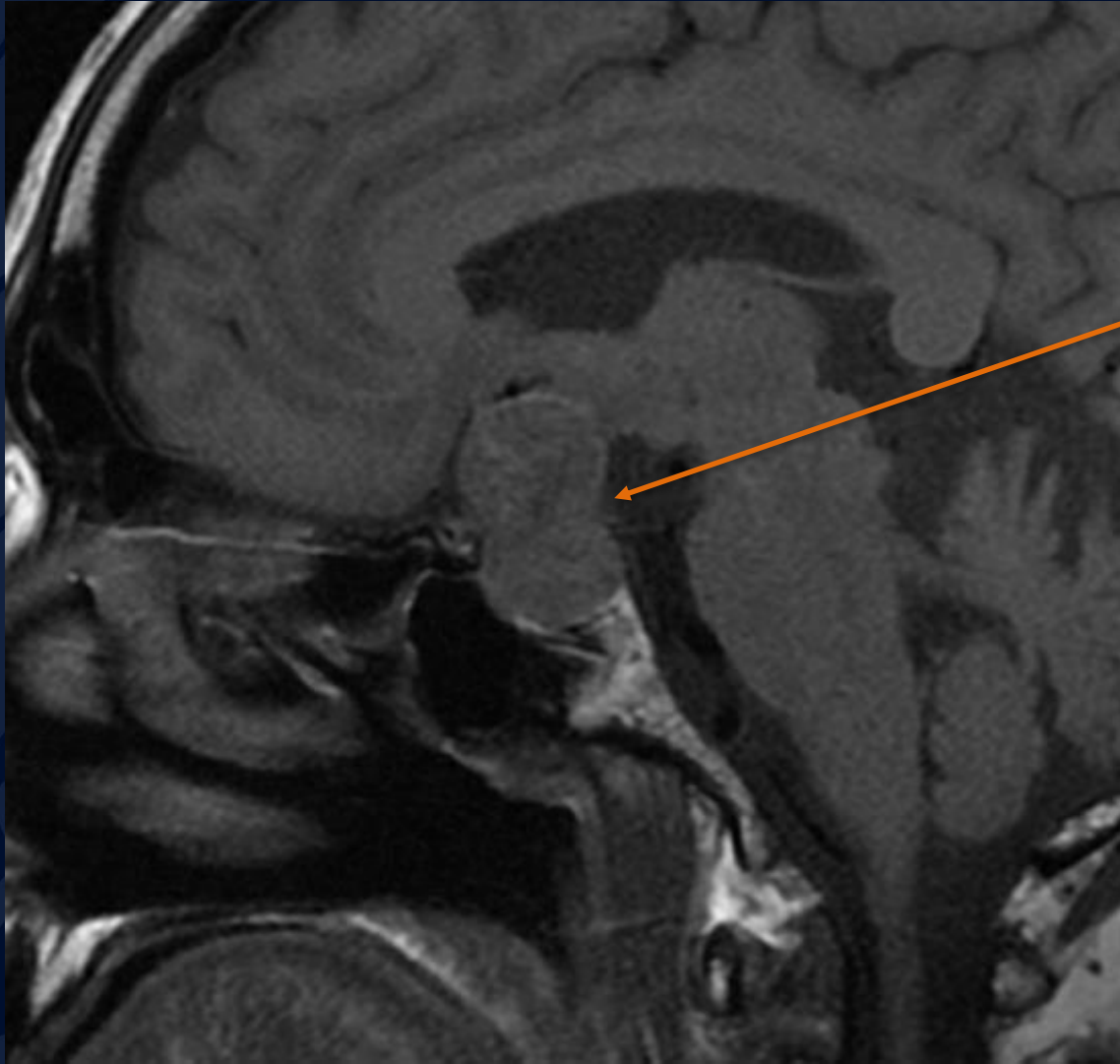




Expansile
intrasellar
mass
measuring
2.0 x 2.9 x
3.0 cm



Intralesional signal characteristics are heterogeneous with some intrinsic T1 signal hyperintensity indicating hemorrhage.



Sagittal MRI T1
“Figure of 8” or
“Snowman sign,”
The result of
constriction by
the diaphragma
sella as the mass
extends from
intrasellar to
suprasellar

Pituitary Macroadenoma

Definitions:

Macroadenoma: Pituitary Adenoma larger than 10 mm

Pituitary Apoplexy: Pituitary Stroke (sudden onset) usually associated with hemorrhagic adenoma.

Epidemiology

- Adenoma is most common cause of sellar mass
- accounts for up to 10 percent of all intracranial neoplasms

Pituitary Macroadenoma

Etiology

- Occasionally genetic: MEN1, Gs-alpha, AIP
- Causes of apoplexy (ischemic or hemorrhagic)
 - Spontaneous, Postpartum (Sheehan's syndrome), DM, HTN, Sickle cell anemia, Acute shock
 - Within Adenoma

Presentation

- Bitemporal hemianopsia due to compression of optic chiasm, headaches
- If functional, sequelae of anterior pituitary hormone overproduction.

Pituitary Macroadenoma

Diagnosis

- Labs: prolactin, insulin like growth factor 1, 24-hour urinary free cortisol, testosterone LH, FSH, TSH with T4
- Mild to moderate elevation of Prolactin is nonspecific due to loss of inhibition by dopamine (“Stalk-effect”)
- Differential for adenoma: hyperplasia, craniopharyngioma, meningioma, pituicytoma, Rathke’s cleft cyst, abscess, hypophysitis

Pituitary Macroadenoma

Imaging

- Macroadenoma >10mm
- CT – solid, soft tissue attenuation similar to brain, moderate contrast enhancement, calcification is rare.
- MRI (preferred modality) –
 - T1 isointense, heterogenous areas vary in signal due to necrosis or hemorrhage.
 - T2 isointense to gray matter, heterogenous signal due to necrosis or hemorrhage with larger masses.
 - Hematocrit-effect suggests recent hemorrhage

References

1. *Harrison's Principles of Internal Medicine*. 20th ed., McGraw-Hill Education, 2018. Access *Medicine*, accessmedicine-mhmedical-com.online.uchc.edu/book.aspx?bookid=2129. Accessed 2 Mar. 2019.
2. "Pituitary Tumors." *DynaMed*, www.dynamed.com.online.uchc.edu/topics/dmp~AN~T900666/Pituitary-tumors. Accessed 2 Mar. 2019.
3. Schwedt, Todd J., and David W. Dodick. "Approach to the patient with thunderclap headache." *UptoDate*, www-uptodate-com.online.uchc.edu/contents/approach-to-the-patient-with-thunderclap-headache?search=pituitary%20apoplexy&source=search_result&selectedTitle=2~41&usage_type=default&display_rank=2. Accessed 2 Mar. 2019.
4. Snyder, Peter J. "Causes, presentation, and evaluation of sellar masses." *UptoDate*, www-uptodate-com.online.uchc.edu/contents/causes-presentation-and-evaluation-of-sellar-masses?search=pituitary%20adenoma&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1#H4. Accessed 2 Mar. 2019.
5. Lipner, K., Kincaid, B. Pituitary Macroadenoma: Pituitary Apoplexy. *Radiology Online*. 2020.