

AMSER Case of the Month

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Sellar Mass with Visual Changes

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Patient Presentation

CC: Headache and blindness in right eye.

HPI: 67 year old male was asymptomatic at bedtime the evening prior to presentation. Shortly after 2:00am a severe headache caused him to wake up. Vision loss in the right eye accompanies the headache. Patient denies history of migraines headaches, visual abnormalities, head or orbital trauma.

PMH: Diabetes Mellitus

Physical Exam: Right eye ptosis.

Fundoscopic exam: Pale right optic nerve and optic disc cupping.

Pertinent Labs

Relevant Labs: Decreased Testosterone and Free Testosterone

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

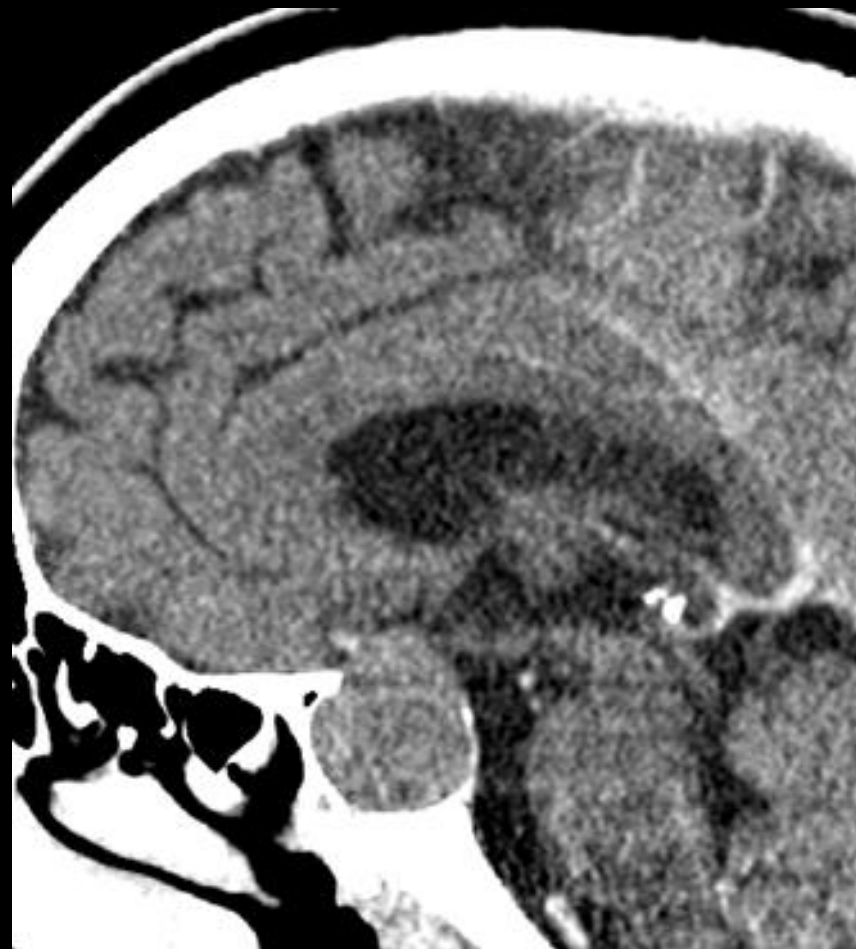
Variant 4. Adult. Pituitary apoplexy. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
MRI sella without and with IV contrast	Usually Appropriate	0
MRI sella without IV contrast	Usually Appropriate	0
CT sella without IV contrast	May Be Appropriate (Disagreement)	☼☼☼
CT sella with IV contrast	May Be Appropriate	☼☼☼
MRI sella with IV contrast	May Be Appropriate	0
CTA head with IV contrast	Usually Not Appropriate	☼☼☼
CT sella without and with IV contrast	Usually Not Appropriate	☼☼☼
MRA head with IV contrast	Usually Not Appropriate	0
MRA head without and with IV contrast	Usually Not Appropriate	0
MRA head without IV contrast	Usually Not Appropriate	0
Radiography sella	Usually Not Appropriate	☼
Venous sampling petrosal sinus	Usually Not Appropriate	Varies

This imaging modality was ordered by the ER physician

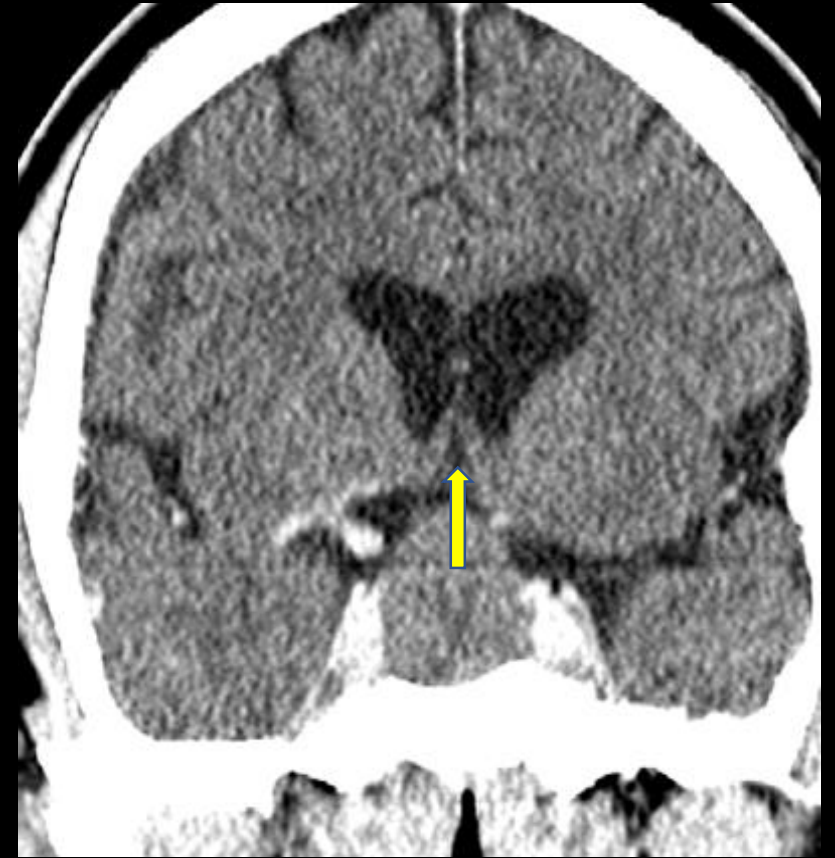
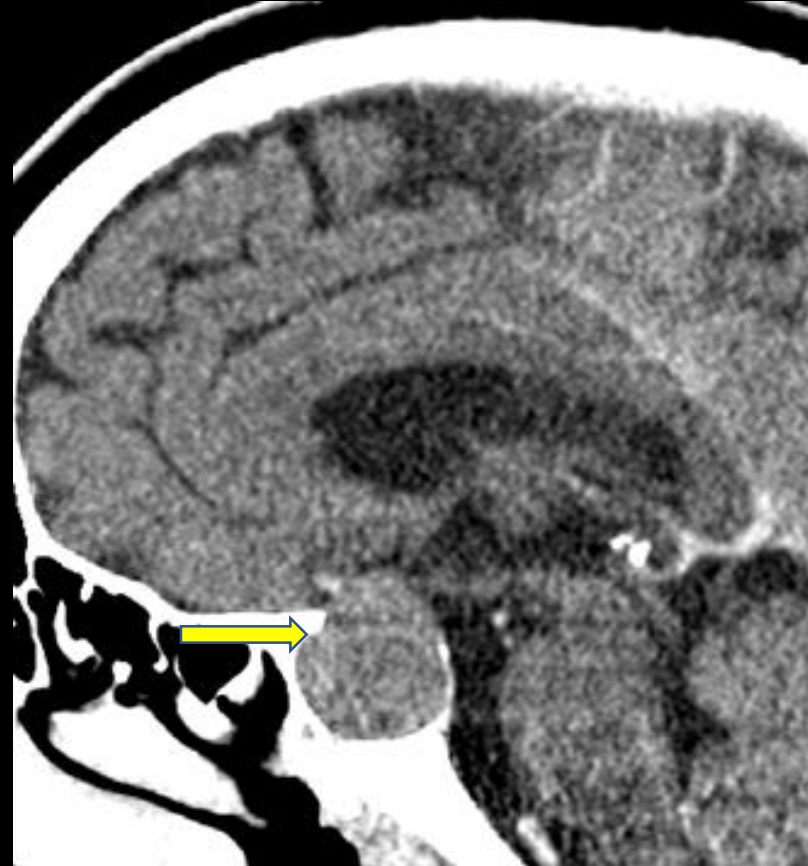
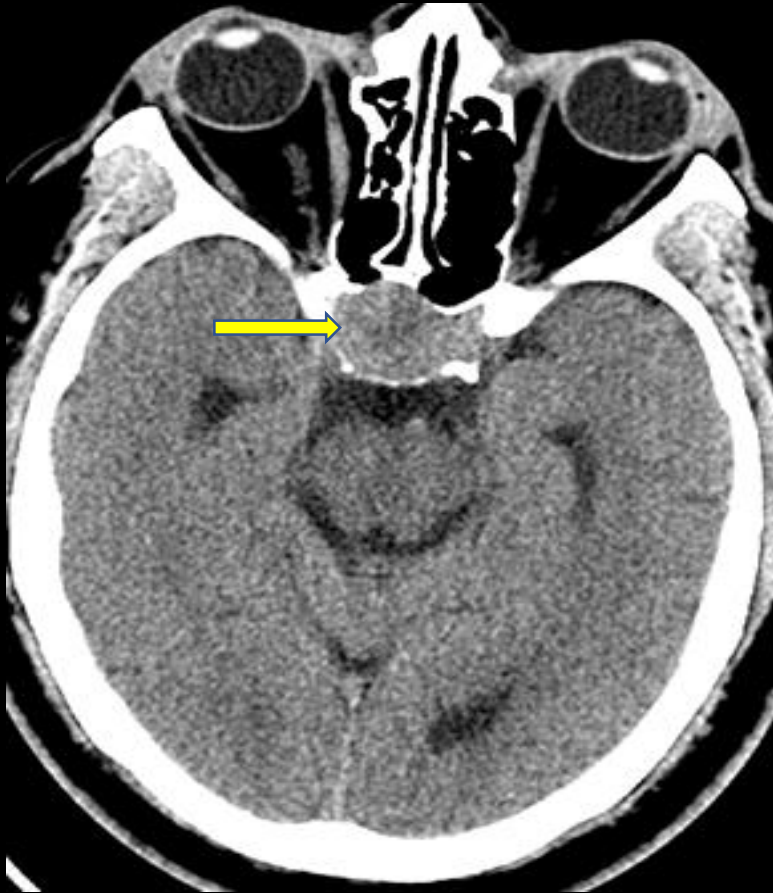


Findings (unlabeled)



Findings: (labeled)

Initial Imaging: Non-Contrast Head CT

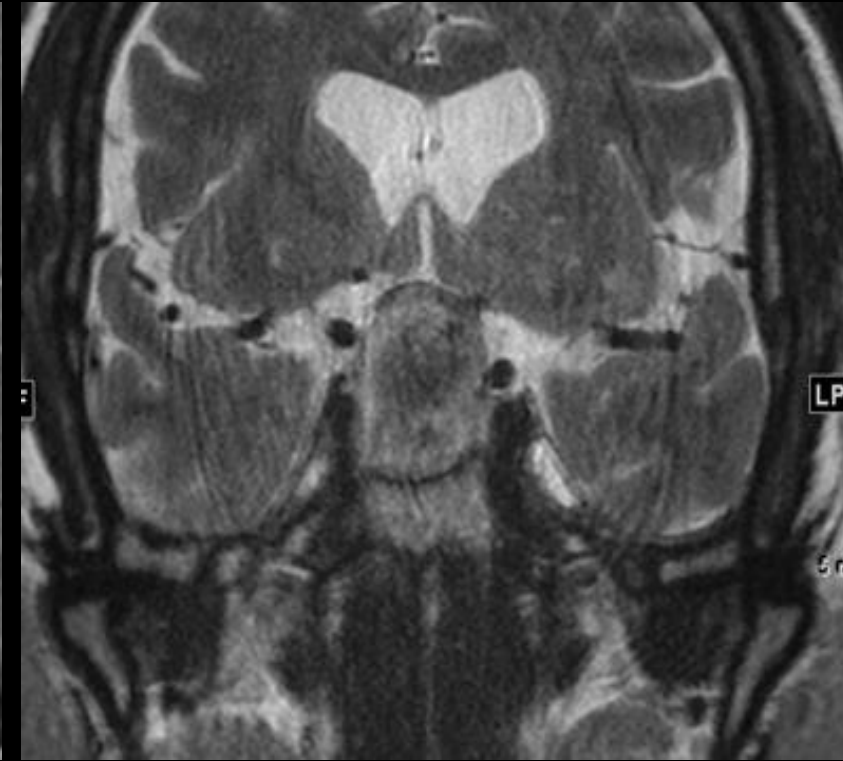
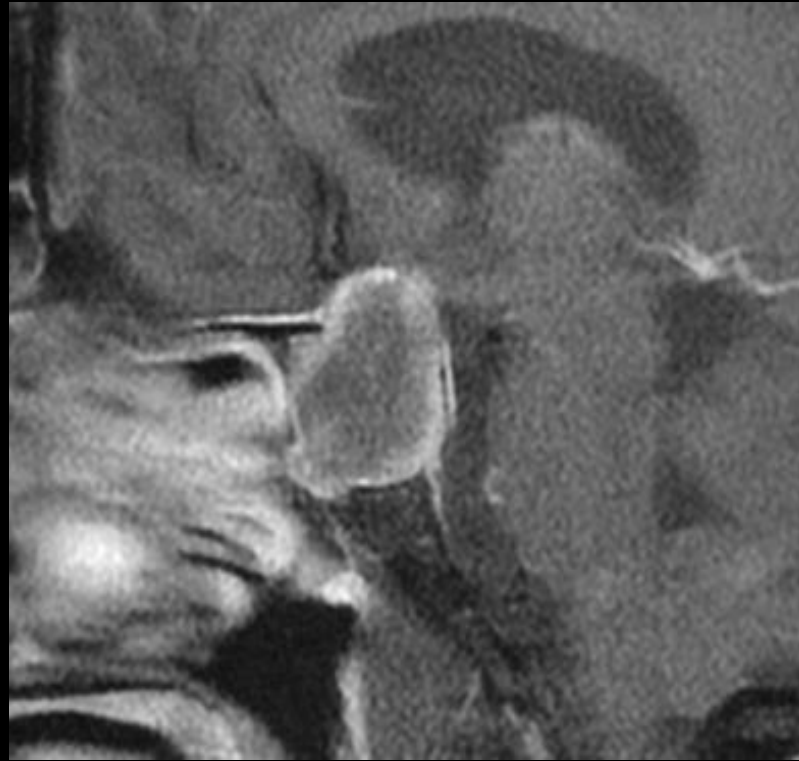
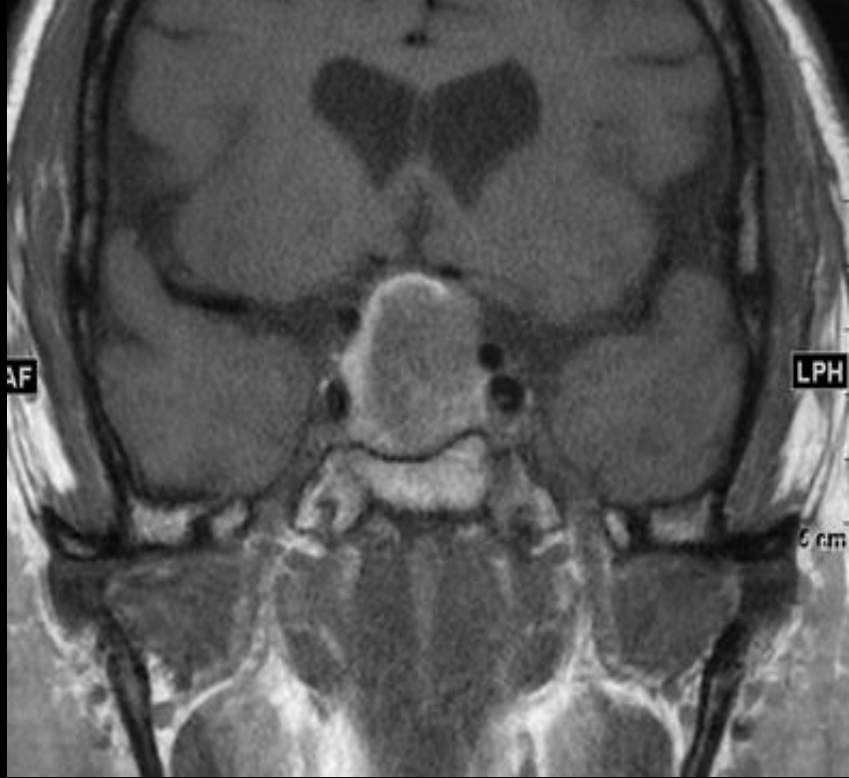


Axial non-contrast head CT showing isodense sellar/suprasellar mass (Yellow Arrow).

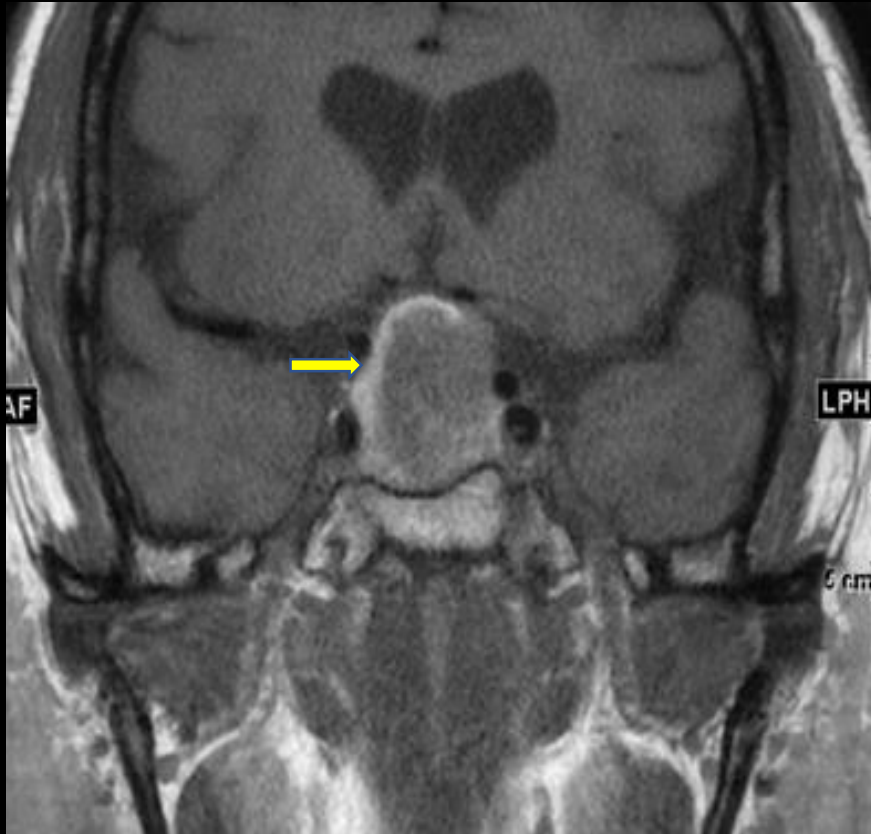
Sagittal non-contrast head CT showing isodense sellar/suprasellar mass (Yellow Arrow).

Coronal non-contrast head CT showing superior displacement of the optic chiasm (Yellow Arrow).

Findings (unlabeled)

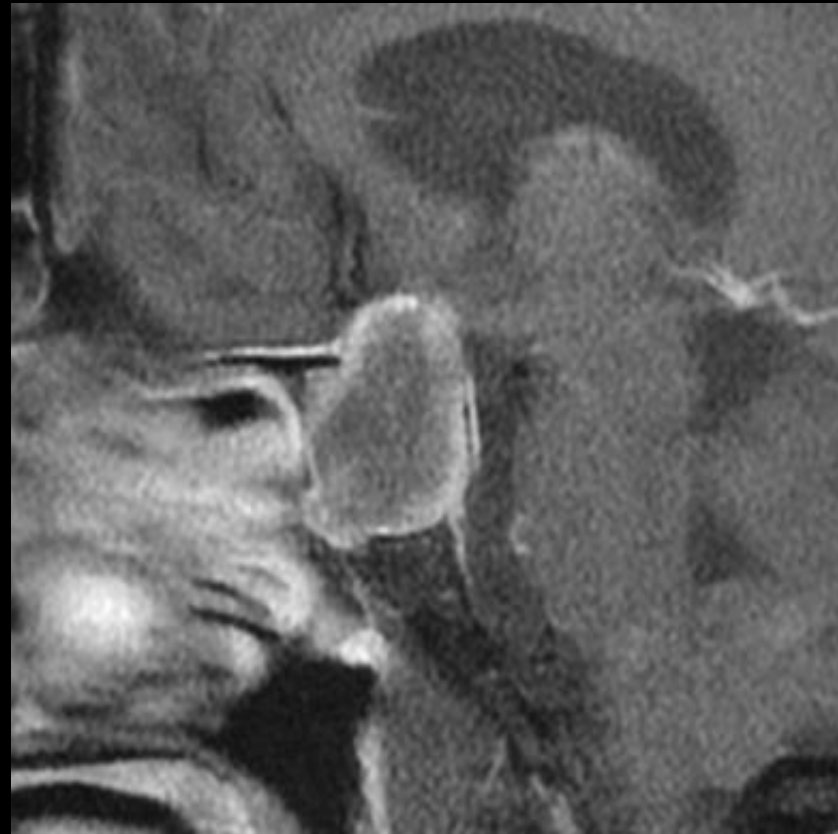


Findings: (labeled)



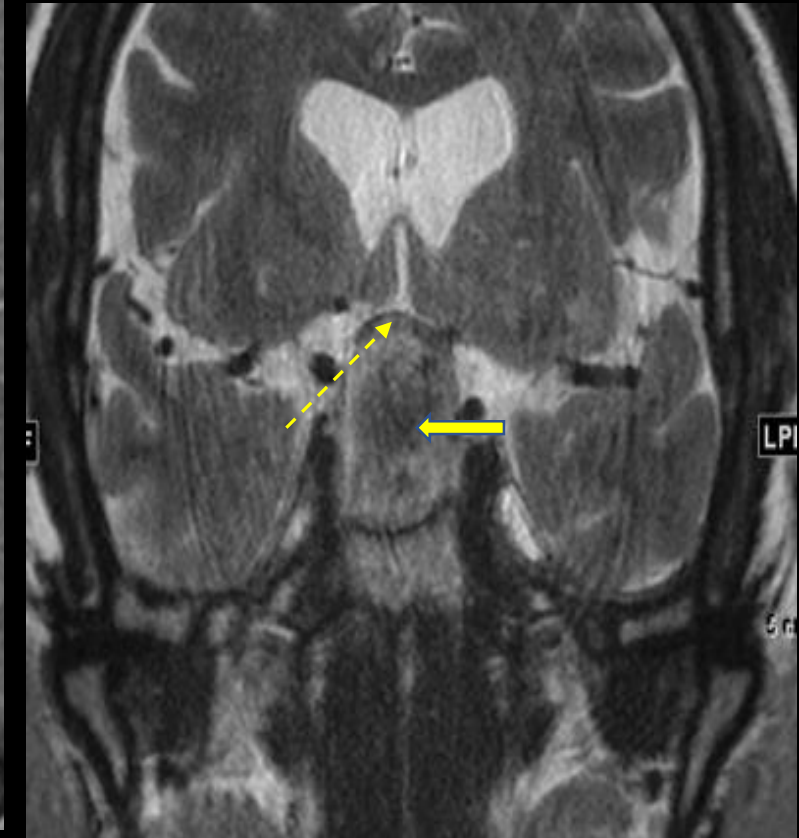
PRECONTRAST T1

Sellar/suprasellar mass with peripheral intrinsic T1 shortening (T1 hyperintense signal) representing hemorrhage (Yellow arrow).



POSTCONTRAST T1

No enhancement separable from peripheral T1 hyperintense signal. No extension into the cavernous sinus.



T2

T2 hypointensity centrally representing hemorrhage (yellow arrow). Mass effect with superior displacement of the optic chiasm (dashed arrow).

Final Dx:

Pituitary Apoplexy

Case Discussion

- Pituitary Apoplexy (PA):
- Epidemiology: PA is rare, with an estimated prevalence ~ 6.2 cases per 100,000 people.
- Male-to-female 2:1
- Mean age: 37-67 years
- Risk factors: HTN, DM, prior radiation therapy, head trauma, pregnancy.
- Common presentation: Severe Headache, loss of vision, hypopituitarism.
- Imaging:
 - Hemorrhage or infarction of the pituitary gland, typically into a preexisting macroadenoma.

Case Discussion

- Pituitary Apoplexy vs Sheehan Syndrome
- Sheehan syndrome refers to pituitary apoplexy of a **nontumorous** gland. It occurs following postpartum hemorrhage. Pituitary ischemia due to postpartum arterial spasms leading to infarction of the gland.
- Pituitary hyperplasia during pregnancy increases the risk for hemorrhage and infarction.
- Pituitary Apoplexy may occur spontaneously in a preexisting adenoma (usually nonfunctioning); or in association with diabetes, hypertension or acute shock.

References:

- [Chaidarun SS, Klibanski A. Gonadotropinomas. Semin Reprod Med 2002; 20:339.](#)
- Barkoudarian G, Kelly, D. Neurosurg Clin N Am 2019; 57:463.
- Vaphiades MS. Neuro-Ophthalmology 2017;06:309.