

# AMSER Case of the Month: September 2018

47yo F with Vision Loss



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# Patient Presentation

- 47 yo F presents for evaluation of progressive vision loss over the course of one year, worsening over the past 2-3 months, with decreased peripheral vision.
  - Associated falls at home, intermittent headaches, poor sleep, and irregular menses.
- PMHx: None
- FHx: Non-contributory
- Physical Exam
  - Bitemporal Hemianopsia on visual field testing

# Pertinent Labs

- Pituitary Hormone Testing

- FSH 8.9 mIU/ml
- LH 4.6 mIU/ml
- ACTH 44 pg/ml
- TSH 1.05 mIU/ml
- **Prolactin 147 ng/ml**

What Imaging Should We Order?

# ACR Appropriateness Criteria: Non ischemic Visual Loss with chiasm or post-chiasm symptoms

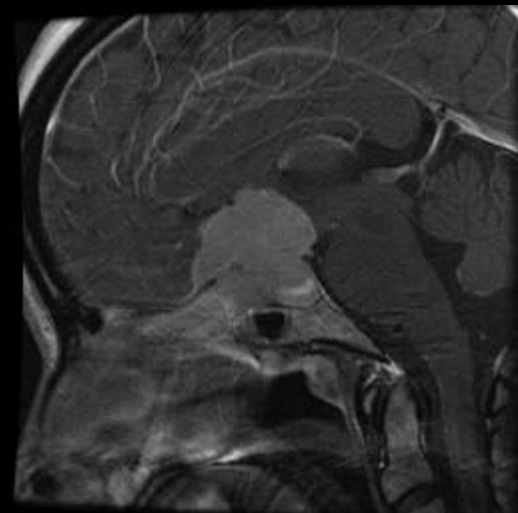
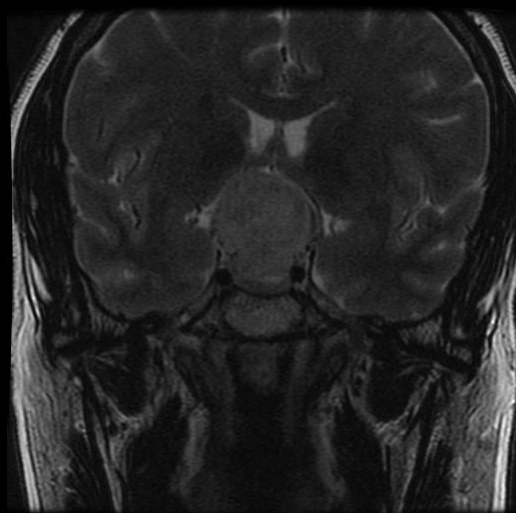
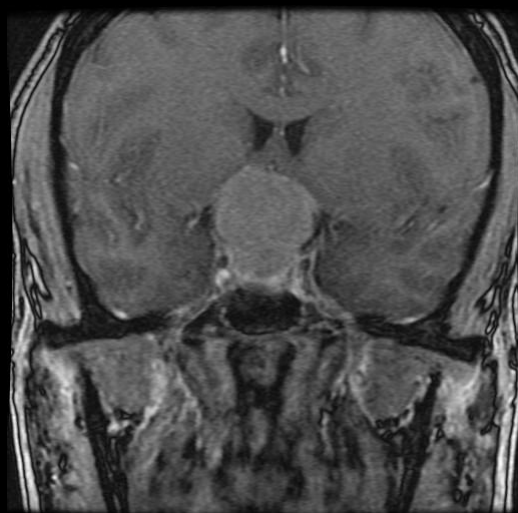
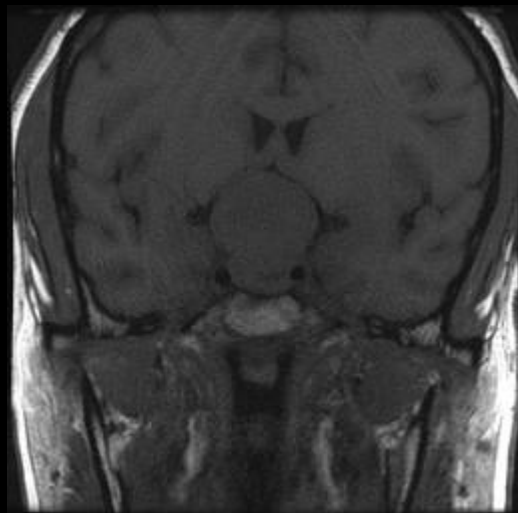
**Variant 7: Nonischemic visual loss. Chiasm or post-chiasm symptoms. Initial imaging.**

Procedure	Appropriateness Category	RRL
MRI head without and with IV contrast	Usually Appropriate	0
MRI head without IV contrast	Usually Appropriate	0
CT head with IV contrast	May Be Appropriate	☼☼☼
CT head without and with IV contrast	May Be Appropriate	☼☼☼
CT head without IV contrast	May Be Appropriate	☼☼☼
CTA head and neck with IV contrast	May Be Appropriate	☼☼☼
MRA head and neck without and with IV contrast	May Be Appropriate	0
CT venography head with IV contrast	May Be Appropriate	☼☼☼
MR venography head without and with IV contrast	May Be Appropriate	0
MR venography head without IV contrast	May Be Appropriate	0
MRA head and neck without IV contrast	May Be Appropriate	0
CT orbits with IV contrast	Usually Not Appropriate	☼☼☼
CT orbits without IV contrast	Usually Not Appropriate	☼☼☼
MRI orbits without and with IV contrast	Usually Not Appropriate	0
MRI orbits without IV contrast	Usually Not Appropriate	0
Arteriography cervicocerebral	Usually Not Appropriate	☼☼☼
CT orbits without and with IV contrast	Usually Not Appropriate	☼☼☼
X-ray orbit	Usually Not Appropriate	☼

← This imaging modality was ordered by the clinician.

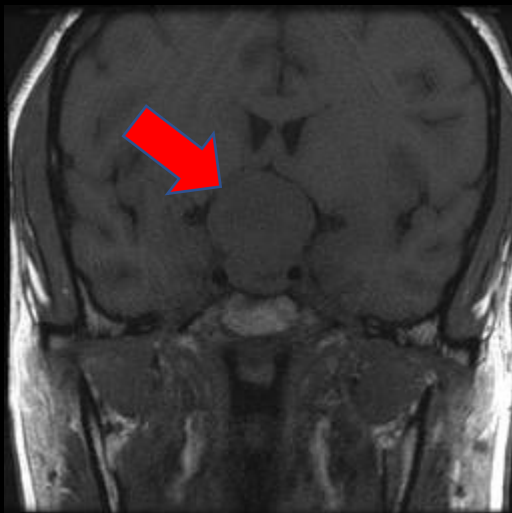


# Findings (unlabeled)



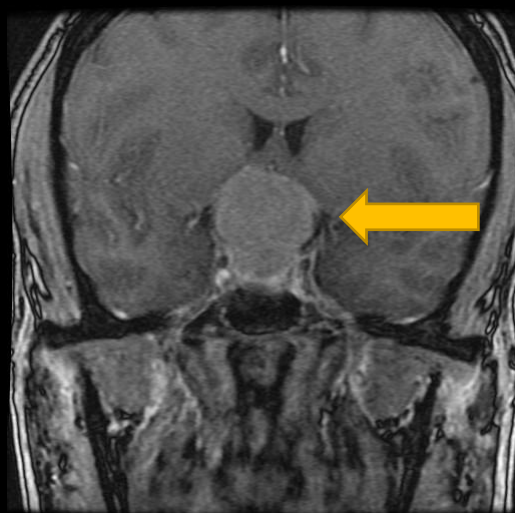
# Findings (labeled)

Coronal T1 Pre-Contrast



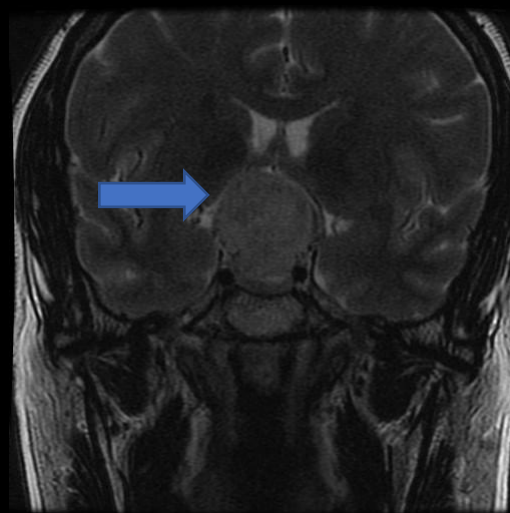
**Red Arrow:**  
3.2 x 3.7 x 3.1 cm  
suprasellar mass with  
mass effect on  
surrounding optic  
chiasm and optic  
nerves.

Coronal T1 Post-Contrast



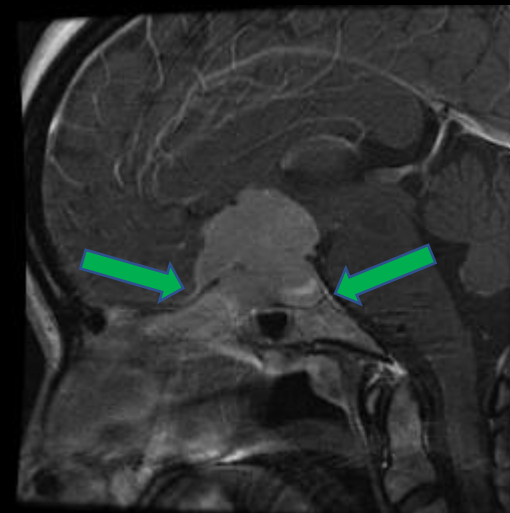
**Yellow Arrow:**  
Mass is  
Homogeneously  
enhancing.

Coronal T2



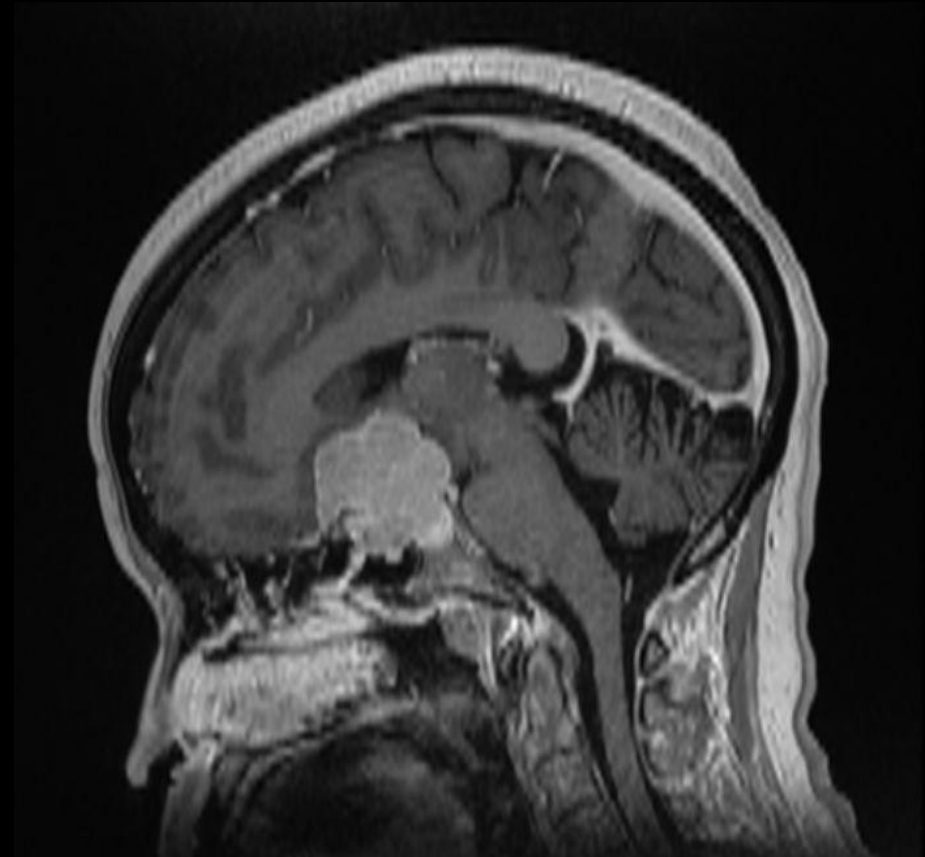
**Blue Arrow:**  
Peripheral rim of T2  
enhancement,  
suggesting mass is  
extra-axial.

Sagittal T1 Post-Contrast



**Green Arrows:**  
Dural Tail

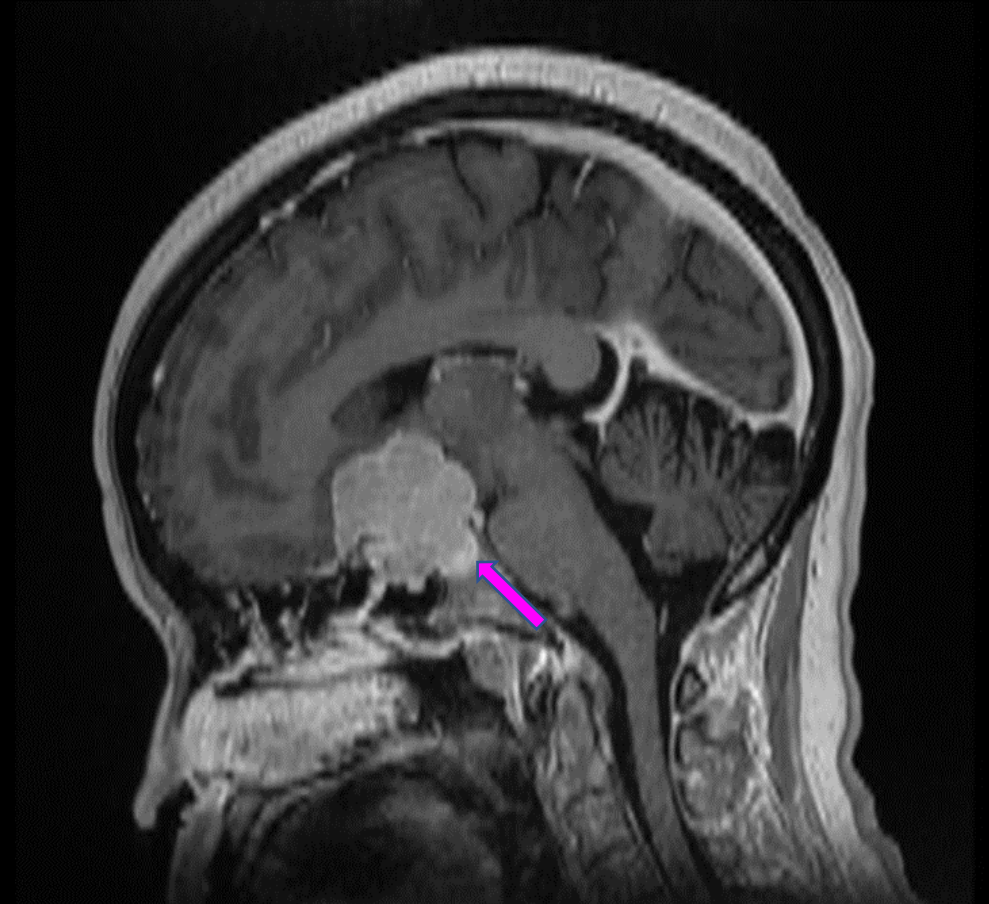
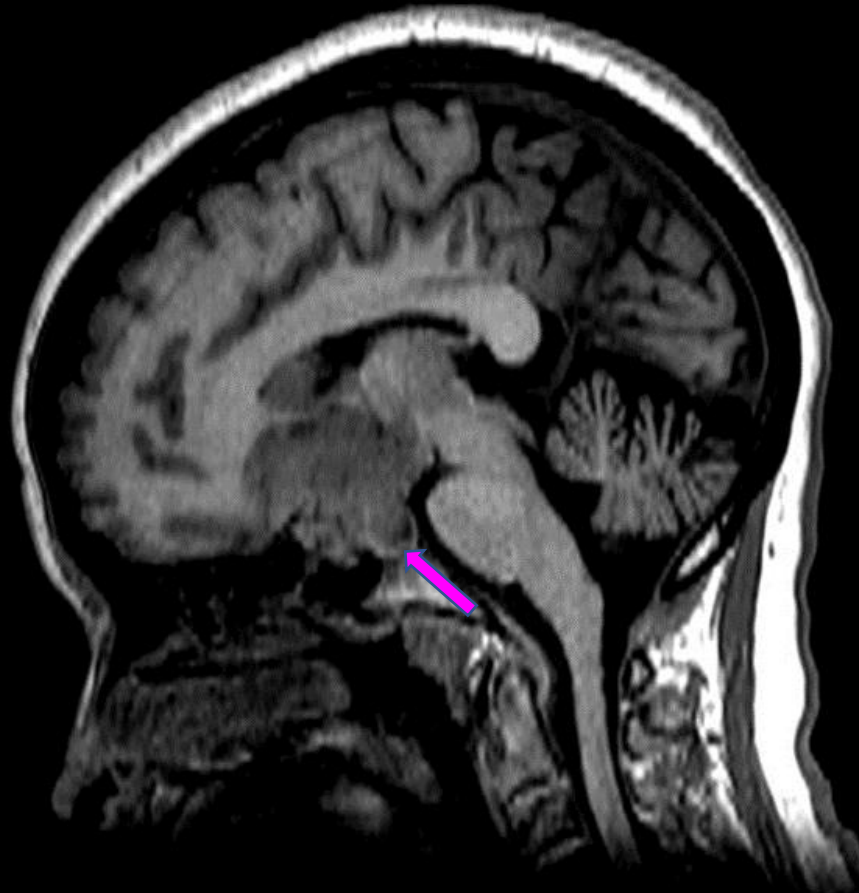
# Findings (unlabeled)



# Findings (labeled)

Sagittal T1 Pre-Contrast

Sagittal T1 Post-Contrast



Pink Arrows: Preservation of Pituitary Gland



Final Dx:

Suprasellar Meningioma (surgically proven)

# Differential of a Suprasellar Mass

- Mnemonic: SATCHMOE
  - Sellar Tumor (Pituitary Adenoma), Sarcoid
  - Aneurysm
  - Teratoma or Tuberculosis (granulomatous diseases)
  - Craniopharyngioma, Cleft Cyst (Rathke), Chordoma
  - Hypothalamic glioma, Hamartoma of Tuber Cinereum, Histiocytosis
  - Meningioma, Metastasis
  - Optic Nerve Glioma
  - Epidermoid/Dermoid/Teratoma

# Meningioma

- Typically benign extra-axial mass arising from meninges.
- MRI is modality of choice.
- Homogeneously enhancing on T1 with IV gadolinium contrast.
- Classic Imaging Findings
  - Dural Tail: 52-78% of cases, Thickened dura adjacent to the lesion.
  - Arterial Narrowing: Useful for differentiating from pituitary adenomas, which typically push arteries away rather than narrowing them.
- Treatment
  - Surgical Excision

# References:

Harisinghani G, Mukesh, Chen W, John, and Weissleder Ralph. Primer of Diagnostic Imaging. Mosby/Elsevier, 2011 Chapter 6, 377-456.

Takeguchi T, Miki H, Shimizu T et-al. Evaluation of the tumor-brain interface of intracranial meningiomas on MR imaging including FLAIR images. Magn Reson Med Sci. 2003;2 (4): 165-9.

Wen M, Jung S, Moon KS et-al. Immunohistochemical profile of the dural tail in intracranial meningiomas. Acta Neurochir (Wien). 2014;156 (12): 2263-73.

Yousem, David M, and Robert I. Grossman. *Neuroradiology: The Requisites*. Philadelphia, PA: Mosby/Elsevier, 2010.