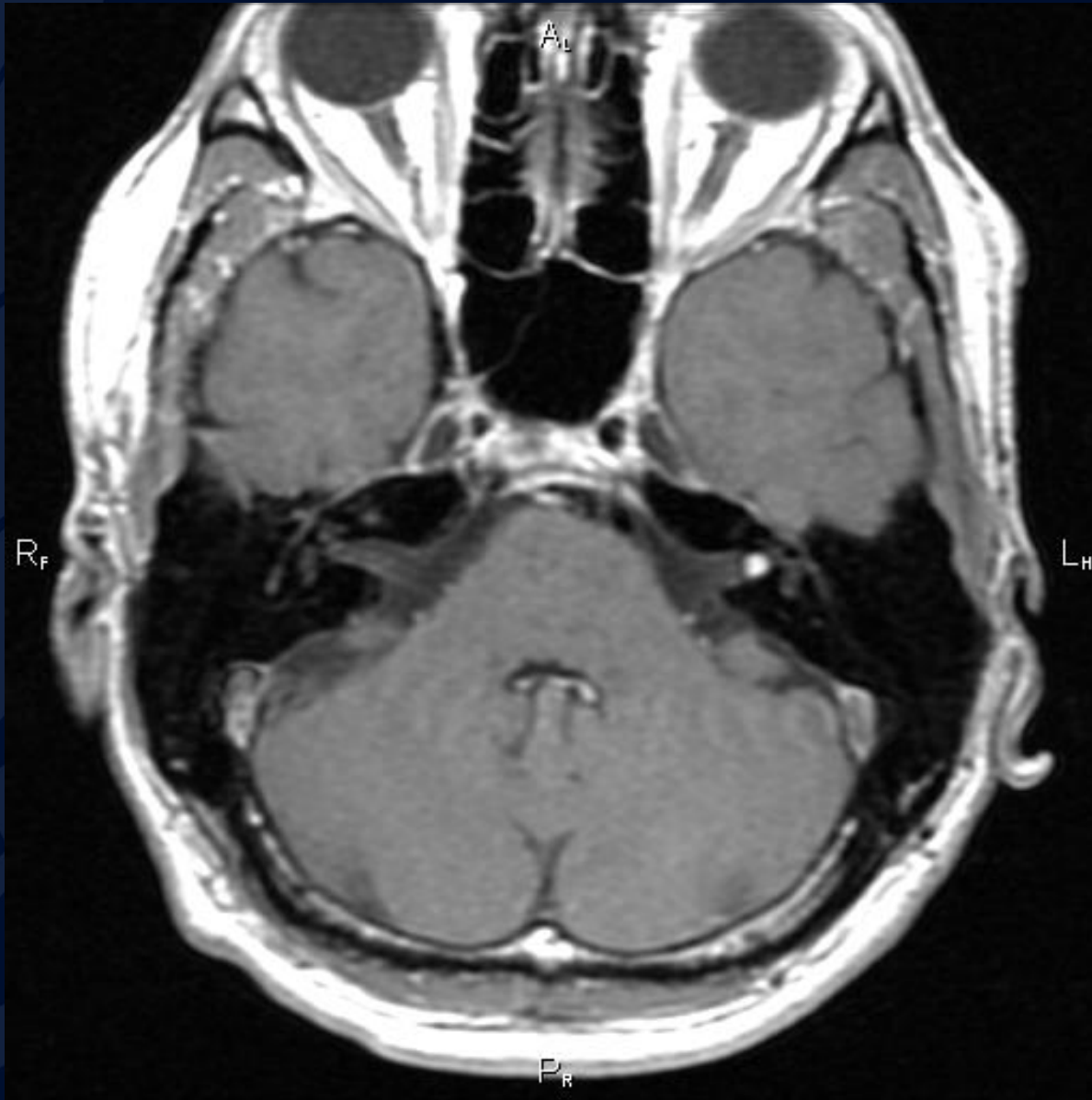
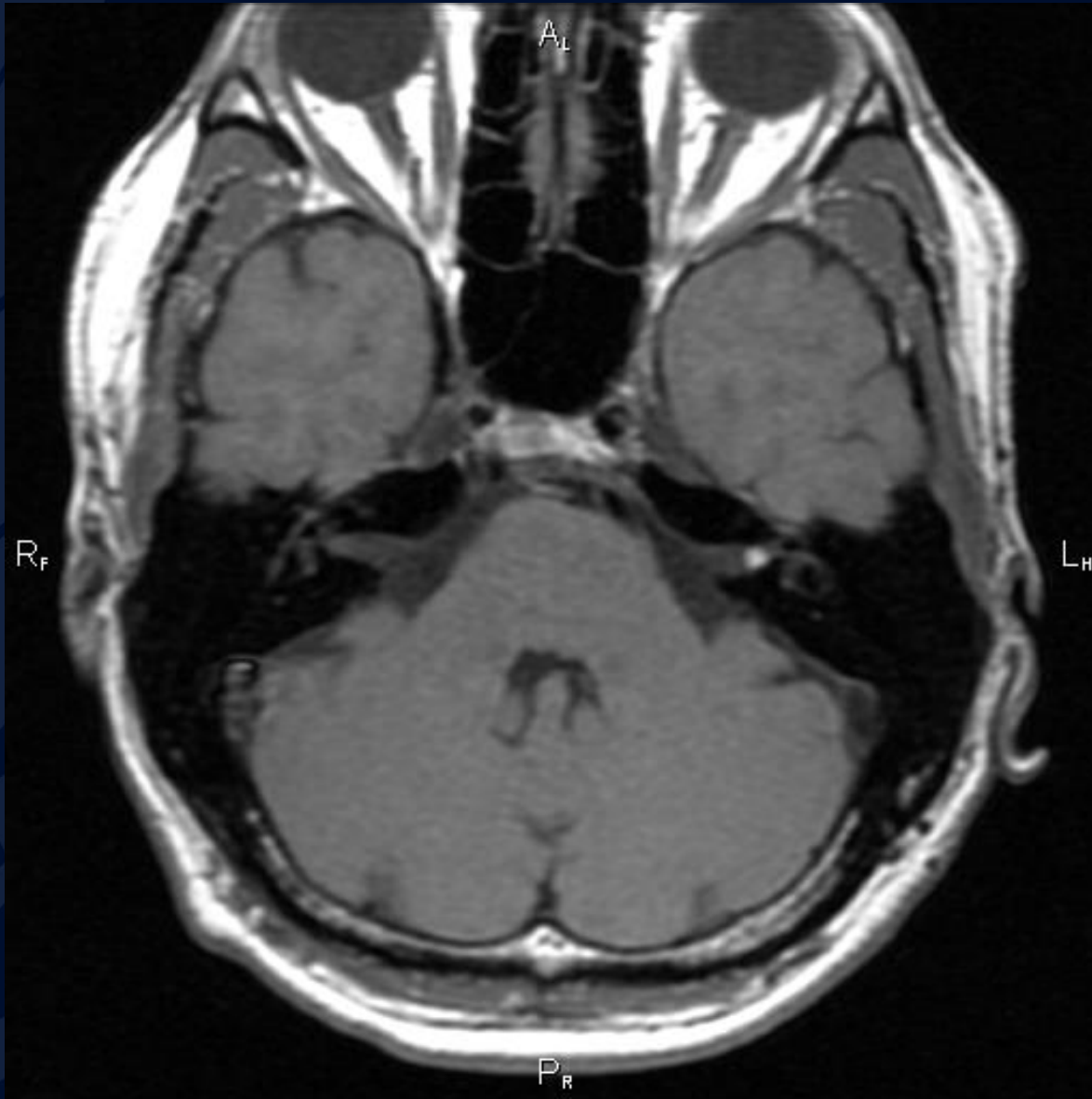


# 40 y/o Male with History of Vertigo and Headache

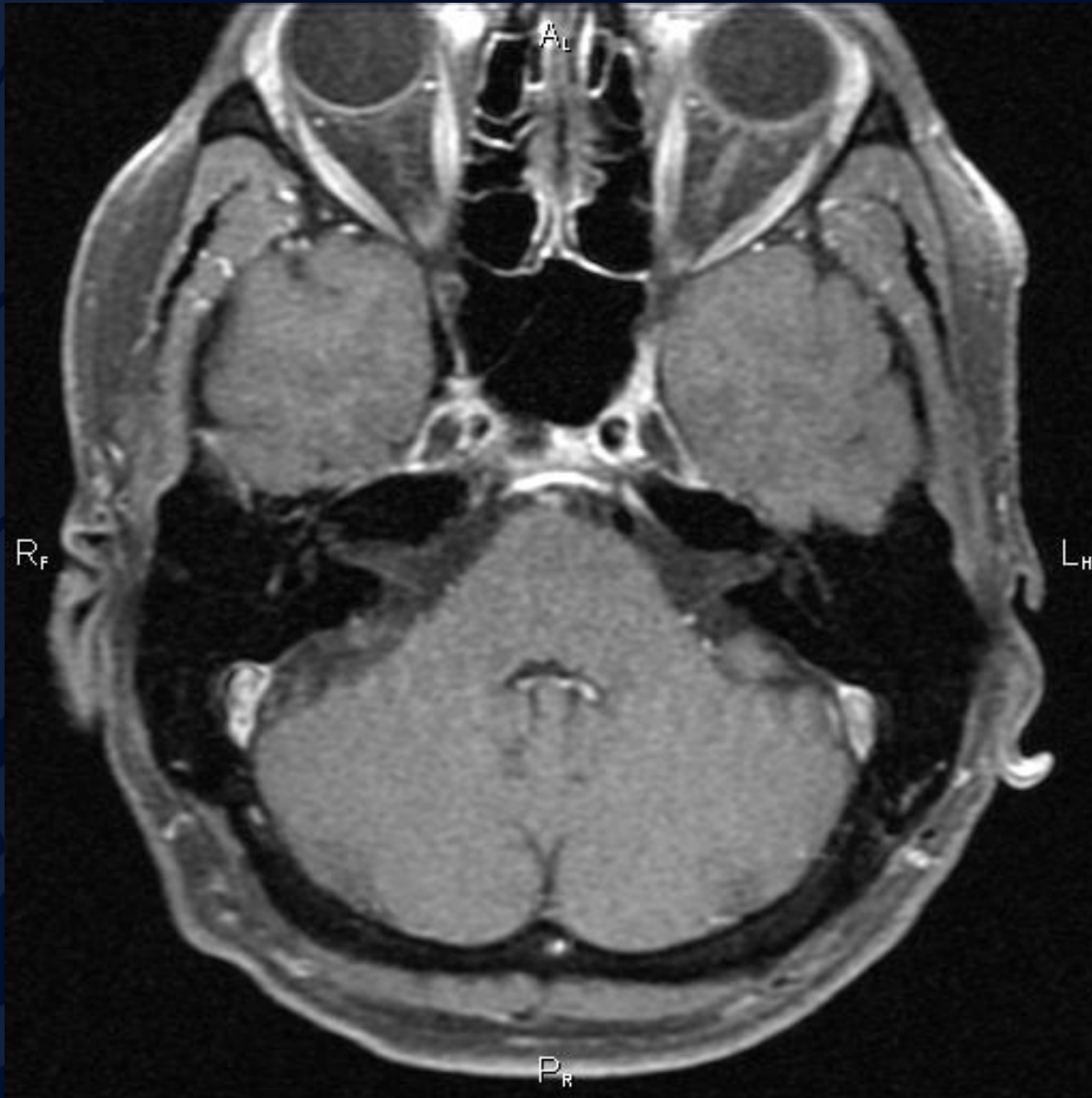
Andrew Klufas, BA  
Roman Klufas, MD



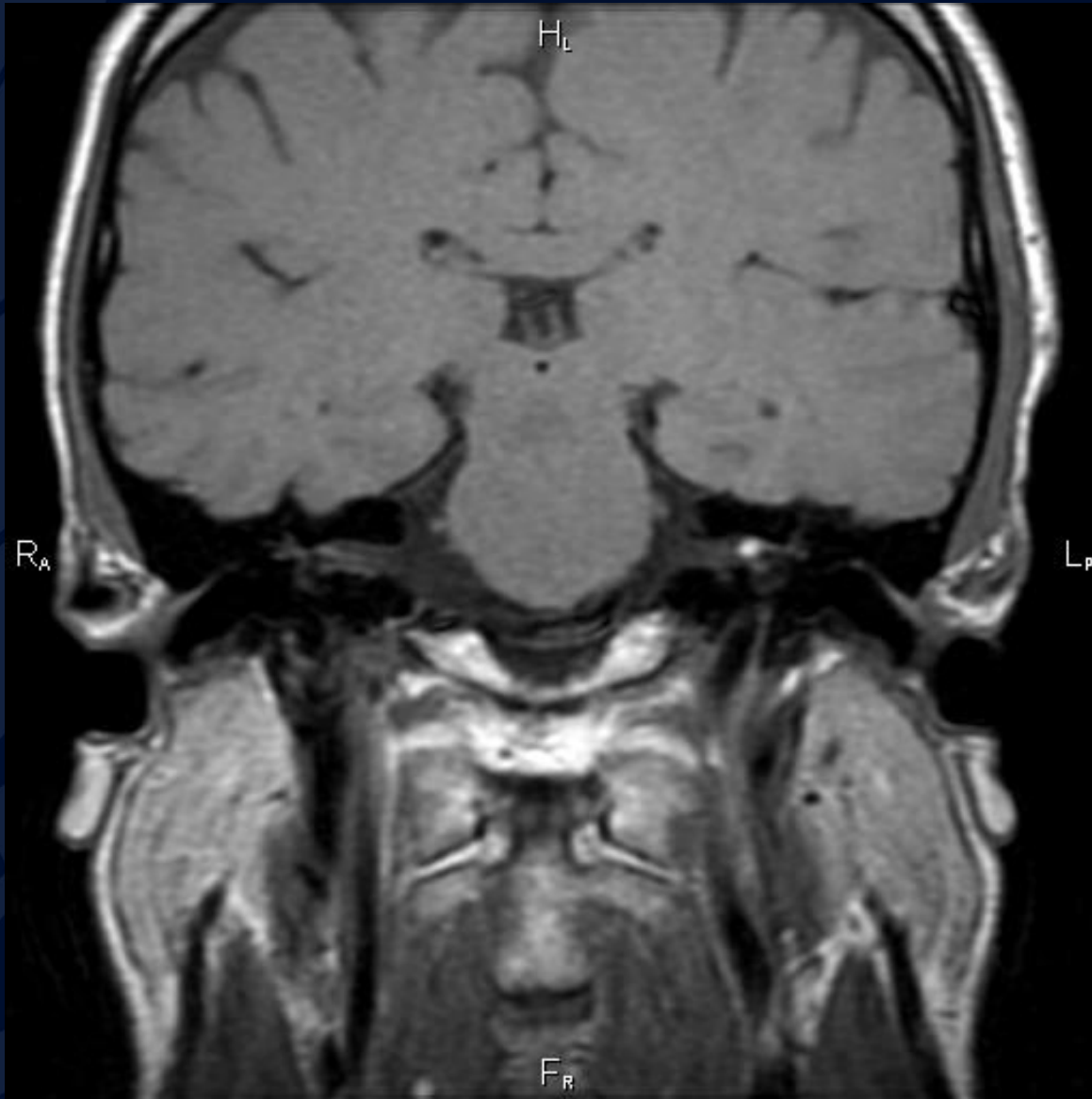
**Axial T1 MRI  
(with contrast)**



## Axial T1 MRI (without contrast)



**Axial T1 MRI  
(Fat  
Suppressed,  
with Contrast)**



**Coronal  
T1 MRI  
(without  
contrast)**



?

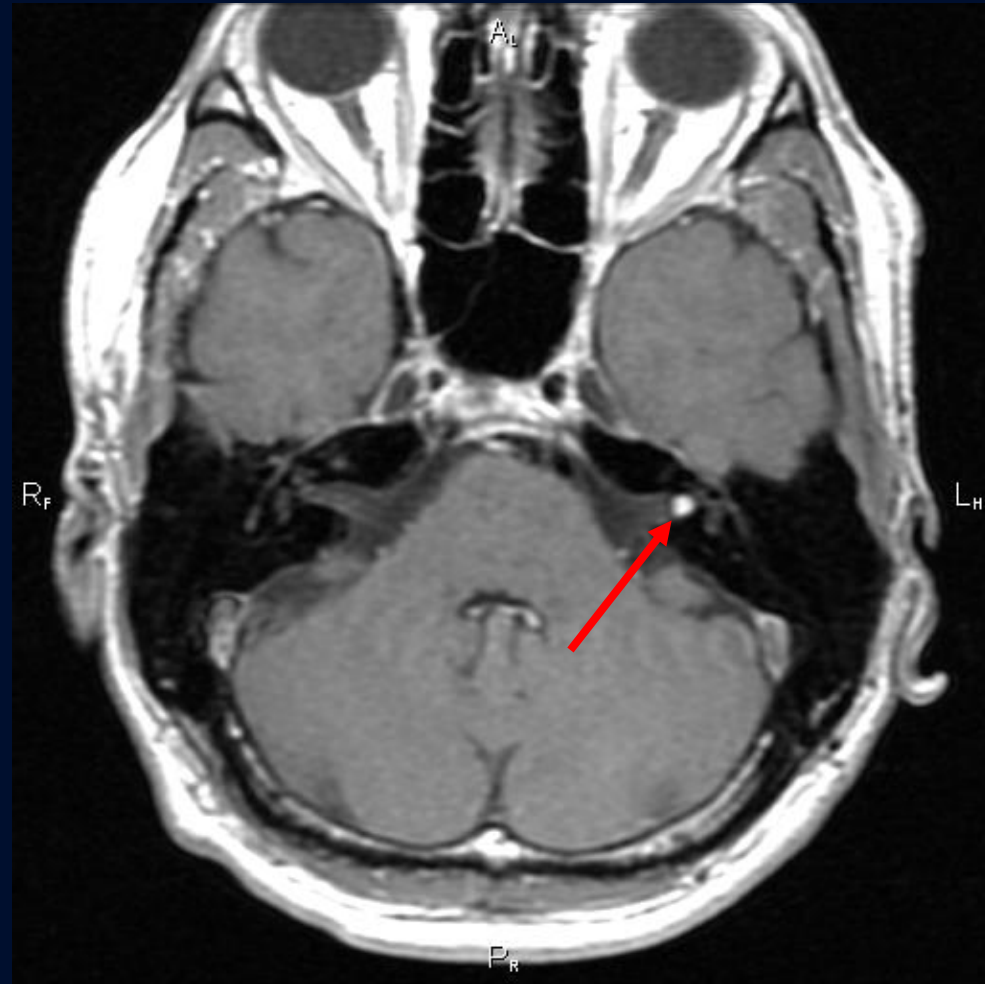
A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide, partially overlapping the title text.

# Internal Auditory Canal Lipoma



# Axial T1 Weighted MRI (w/ contrast)

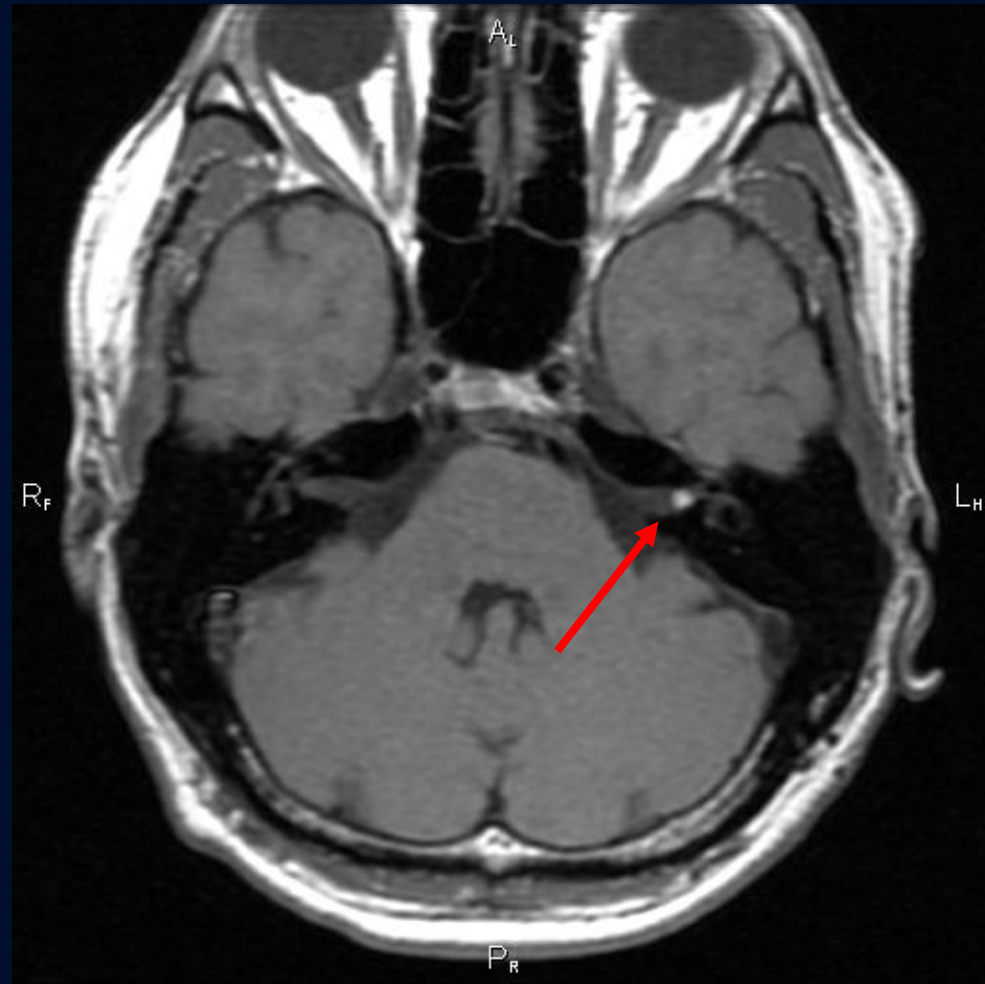
- Small focal T1 hyperintensity seen within the left auditory canal (red arrow)
- Lesion does not enhance with contrast
  - T1 hyperintensity represents fat





# Axial T1 Weighted MRI (w/o contrast)

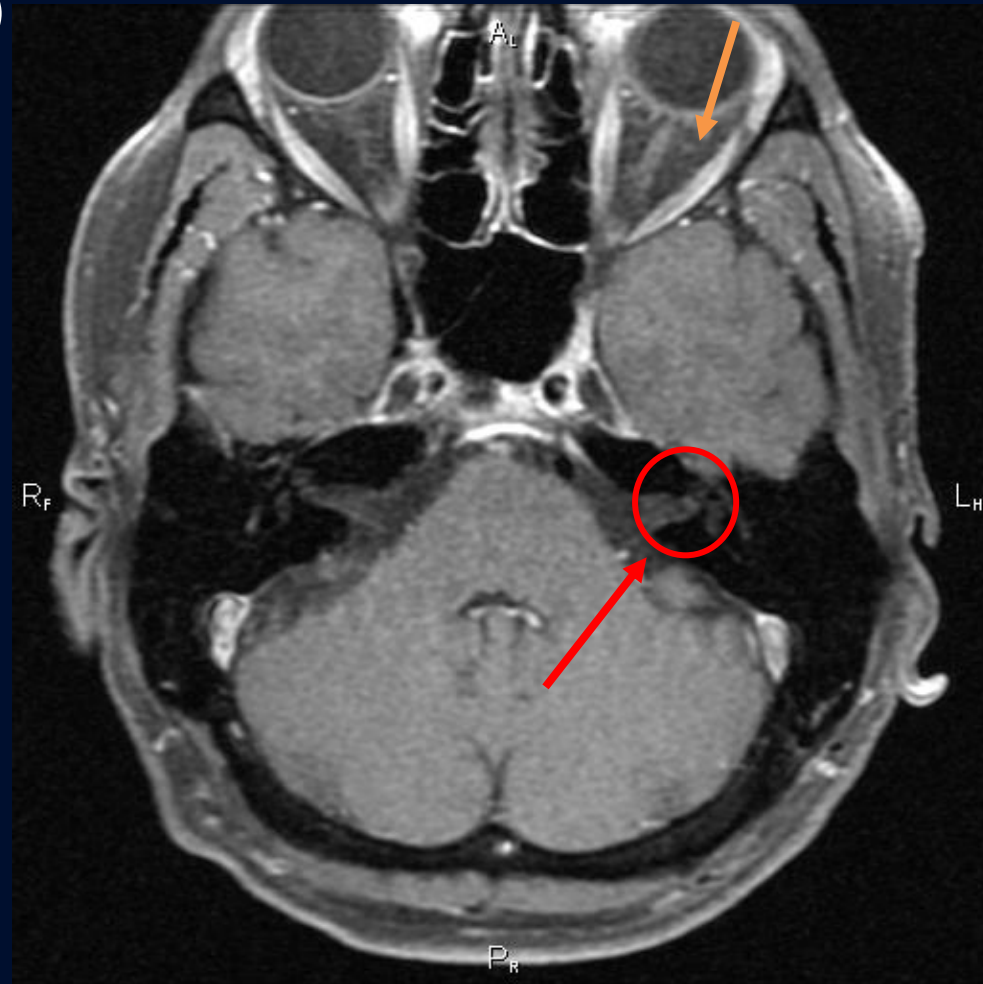
- Small focal hyperintensity seen within the left auditory canal (red arrow)



## Axial T1 MRI – Fat Suppressed (Enhanced, with Contrast)

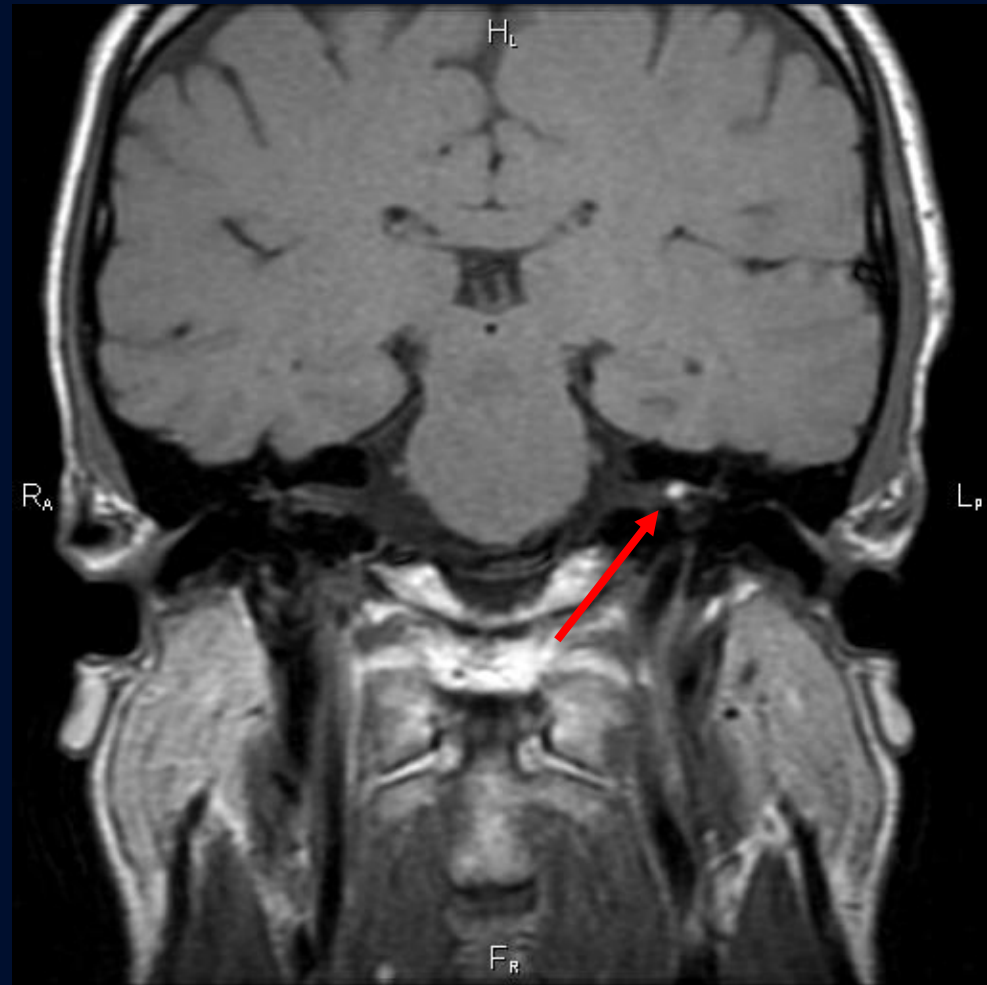
- Small focal hyperintensity no longer seen within the left auditory canal (red arrow and circle)
- No gadolinium enhancement is noted on the fat suppressed sequence allowing exclusion of schwannoma

Note: Suppression of retrobulbar/orbital fat quickly allows us to determine fat suppressed nature of imaging



# Coronal T1 Weighted MRI (w/o contrast)

- Small focal hyperintensity seen within the left auditory canal (red arrow)



# Internal Auditory Canal Lipoma

**Causes:** Thought to be a congenital malformation of the primitive meninx (forms the subarachnoid space and meninges) however definitive cause remains unclear

**Clinical Presentation:** Ipsilateral sensorineural hearing loss, tinnitus, or vertigo presenting at ~40 years old

**Imaging:** *Clinical presentation is nonspecific but imaging is mandatory*

- **MRI:** Primary imaging modality for diagnosis
  - Hyperintense on T1-weighted images
  - Will suppress via Fat Suppressed imaging
  - Does not enhance with contrast administration
- **CT:** Can demonstrate presence of fat
  - Can be used to rule out calcification and bone erosion

**Rarity:** IAC lipomas are very rare and are estimated to make up less than 1% of all cerebellopontine masses

# Cerebellopontine Angle Mass Differential

Common entities affecting the cerebellopontine angle include:

- Vestibular Schwannomas
- Meningiomas
- Epidermoid Tumors
- Ependymomas

Distinguishing characteristics on imaging are summarized below:

	<b>T1 (-FS, -C)</b>	<b>T1 +FS</b>	<b>T1 +Contrast</b>
<b>Lipoma</b>	<b>Hyperintense</b>	+ Suppression	- Enhancement
<b>Vestibular Schwannomas</b>	<b>Hypo- or iso-intense</b>	- Suppression	+ Enhancement
<b>Meningiomas</b>	<b>Hypo- or iso-intense</b>	- Suppression	+ Enhancement
<b>Epidermoid Tumors</b>	<b>Isointense</b>	- Suppression	+Peripheral Enhancement
<b>Ependymomas</b>	<b>Hypo- or iso-intense</b>	- Suppression	+ Enhancement

# References

Filli, Lukas et al. “Symptomatic Lipoma of the Internal Auditory Canal: CT and MRI Findings. A Case Report.” *The neuroradiology journal* vol. 27,4 (2014): 479-81. doi:10.15274/NRJ-2014-10077

Bacciu, Andrea et al. “Lipomas of the internal auditory canal and cerebellopontine angle.” *The Annals of otology, rhinology, and laryngology* vol. 123,1 (2014): 58-64. doi:10.1177/0003489414521384

Rasuli, Bahman. “*Cerebellopontine Angle Mass.*” Radiopaedia. <https://radiopaedia.org/articles/cerebellopontine-angle-mass?lang=us>.

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