40 y/o Male with History of Vertigo and Headache

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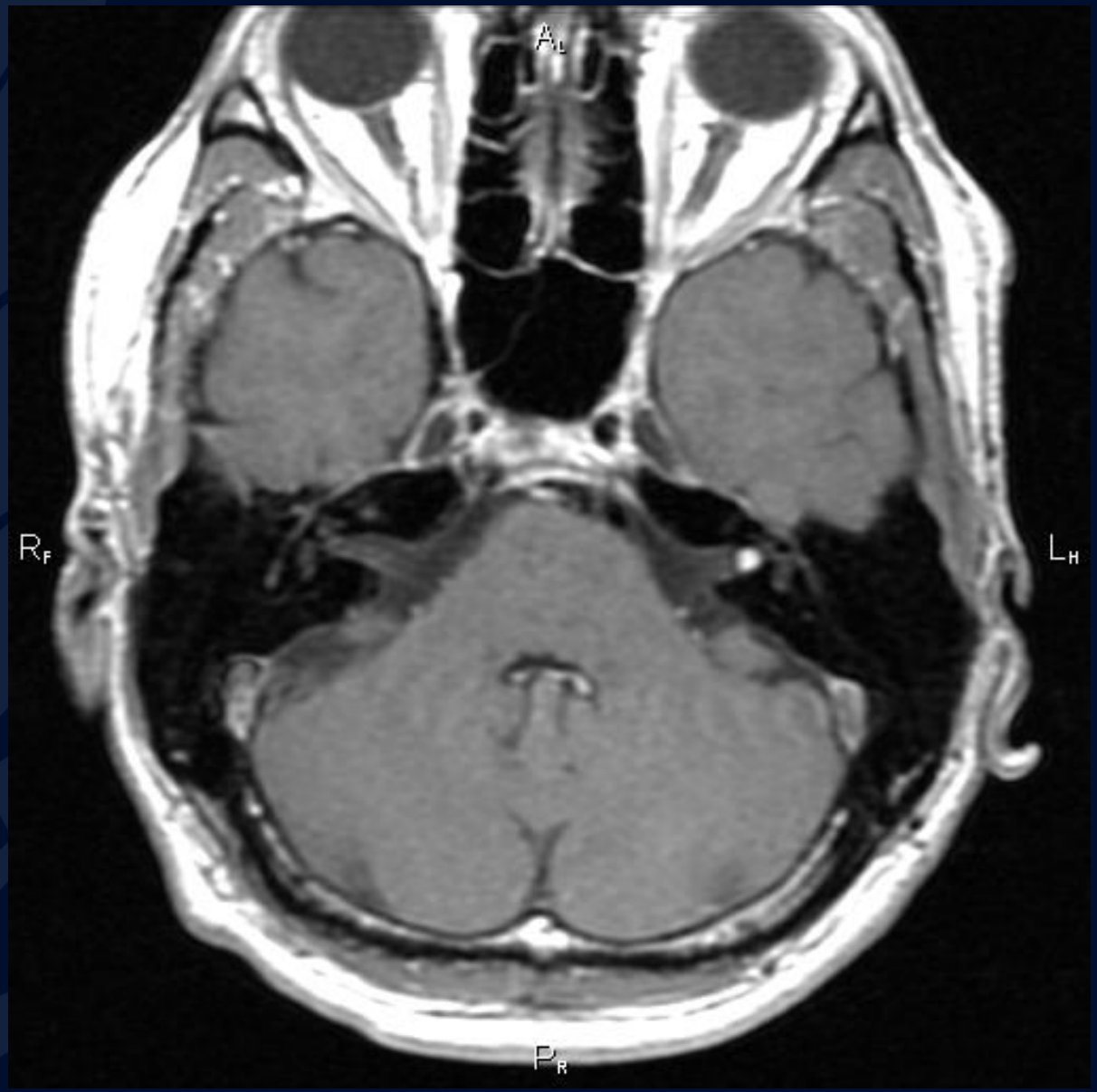

Axial T1 MRI (with contrast)

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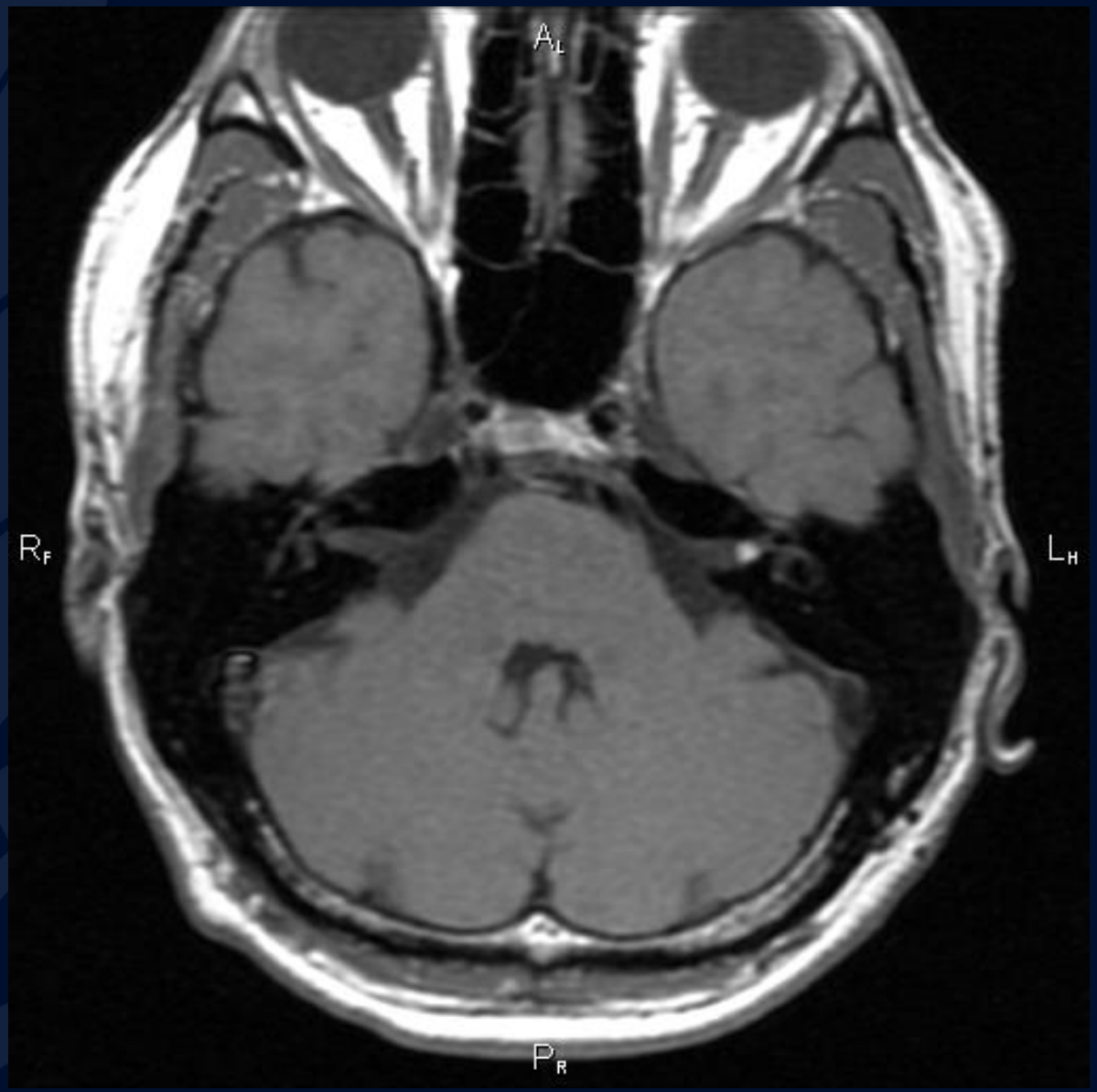

Axial T1 MRI (without contrast)

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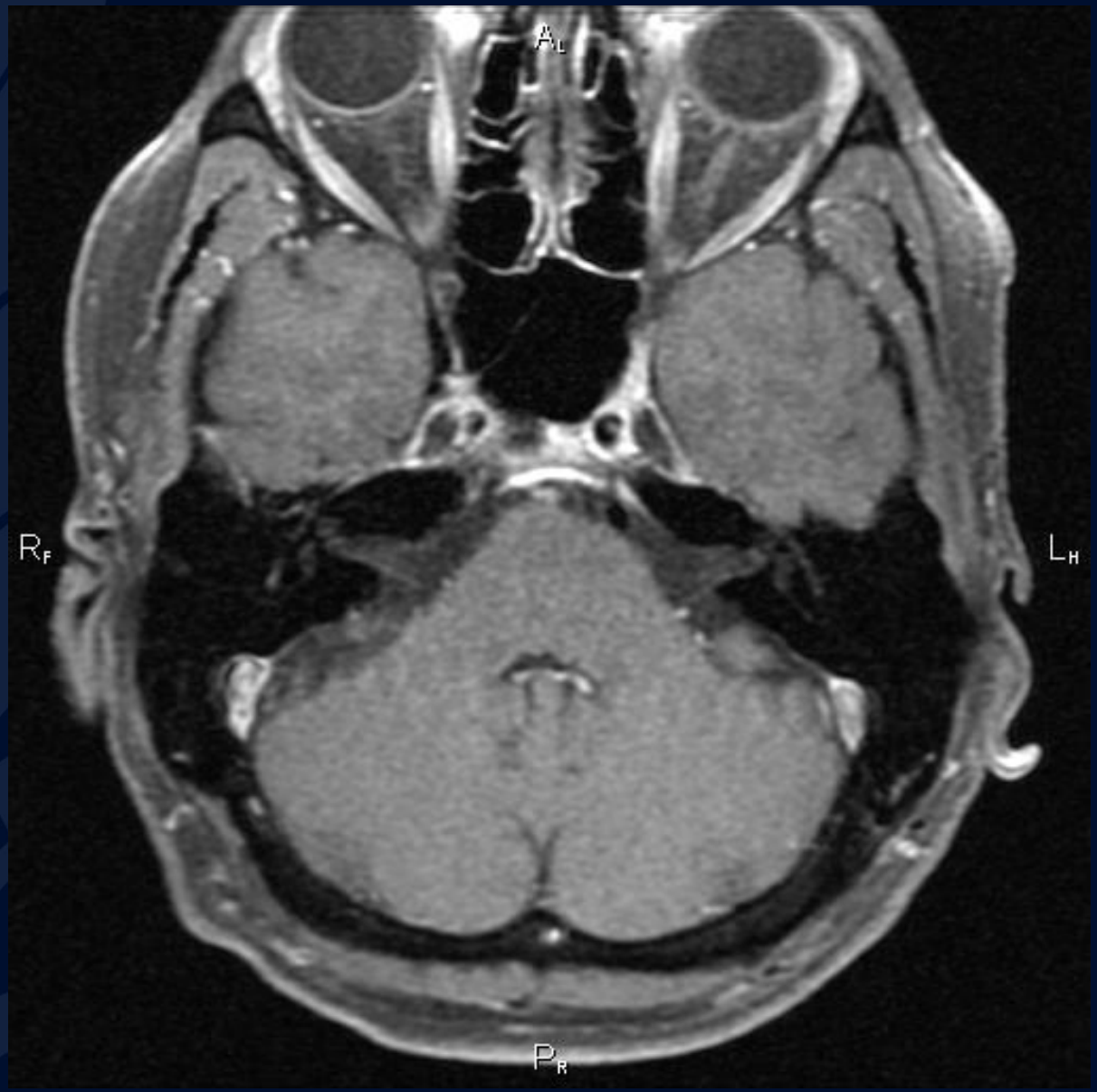

Axial T1 MRI (Fat Suppressed, with Contrast)

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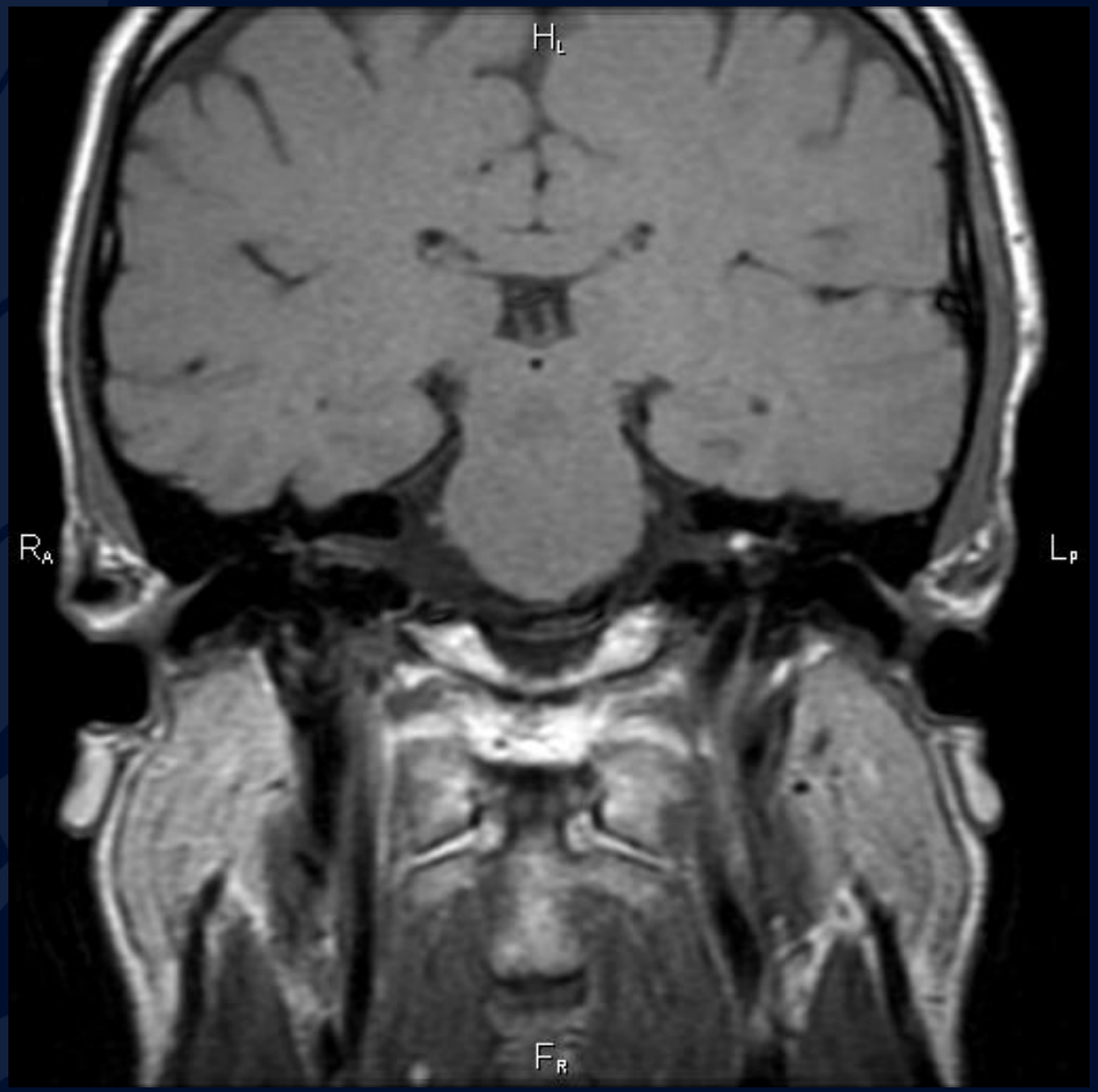

Coronal T1 MRI (without contrast)

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Internal Auditory Canal Lipoma

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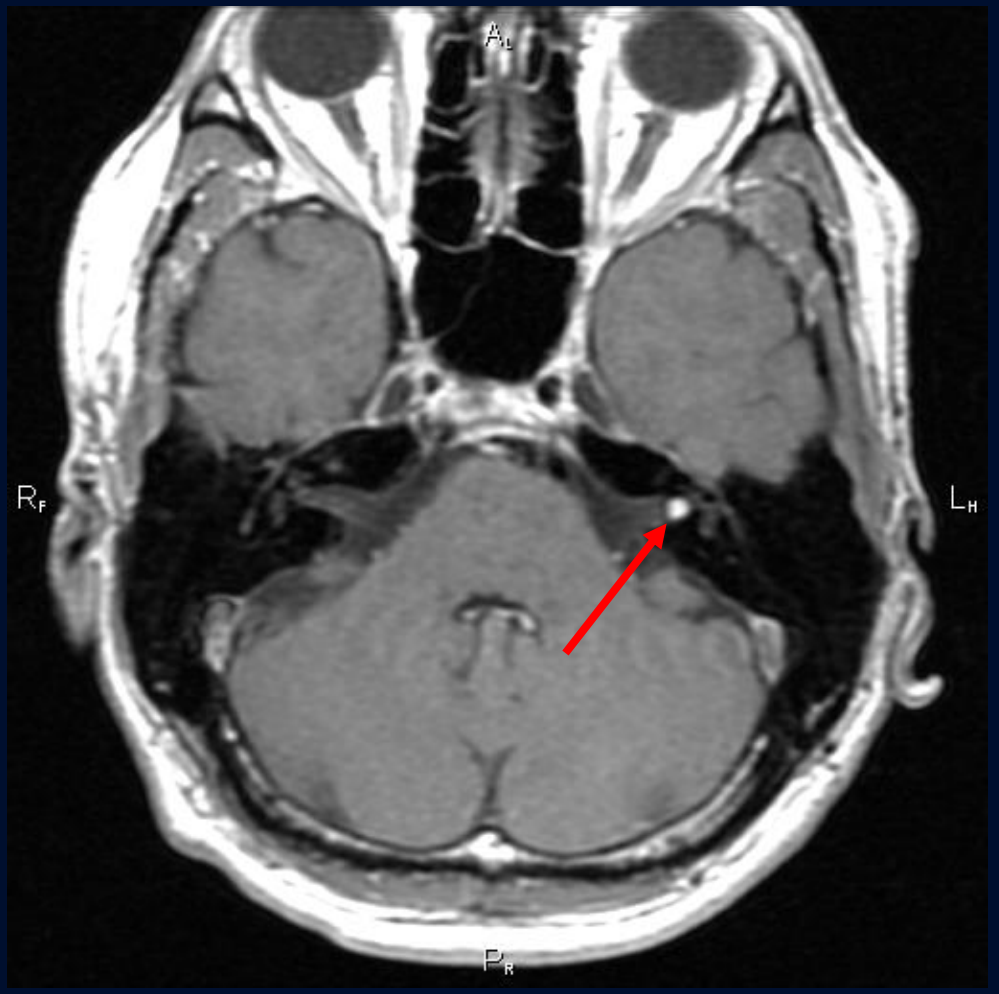
Axial T1 Weighted MRI (w/ contrast)

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



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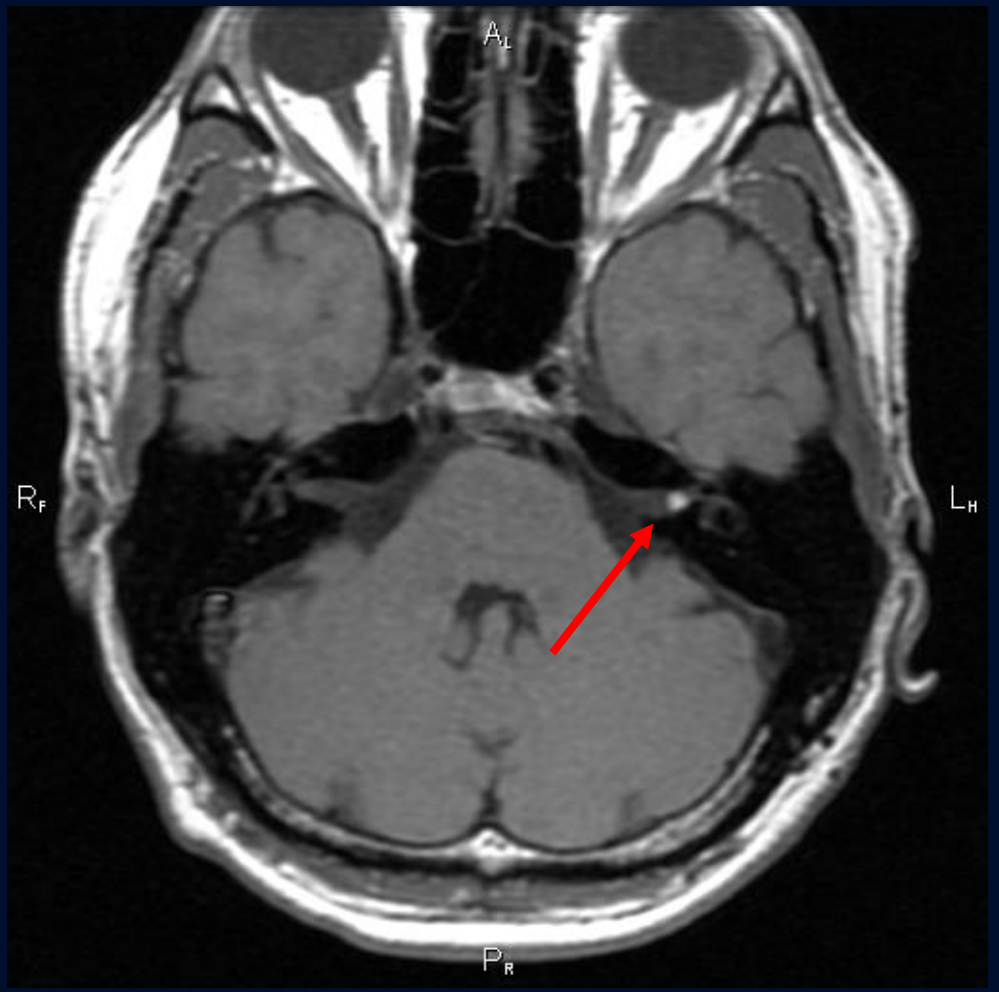
Axial T1 Weighted MRI (w/o contrast)

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



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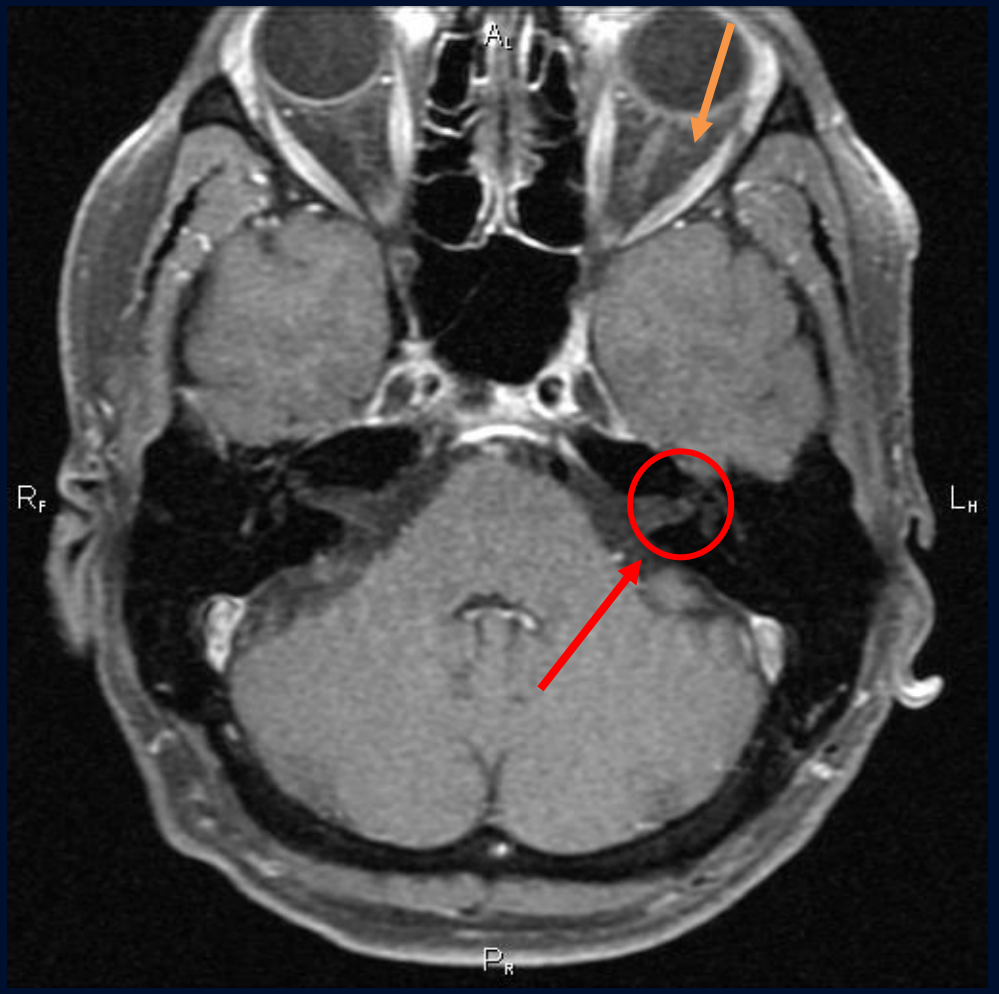
Axial T1 MRI – Fat Suppressed (Enhanced, with Contrast)

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

- 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



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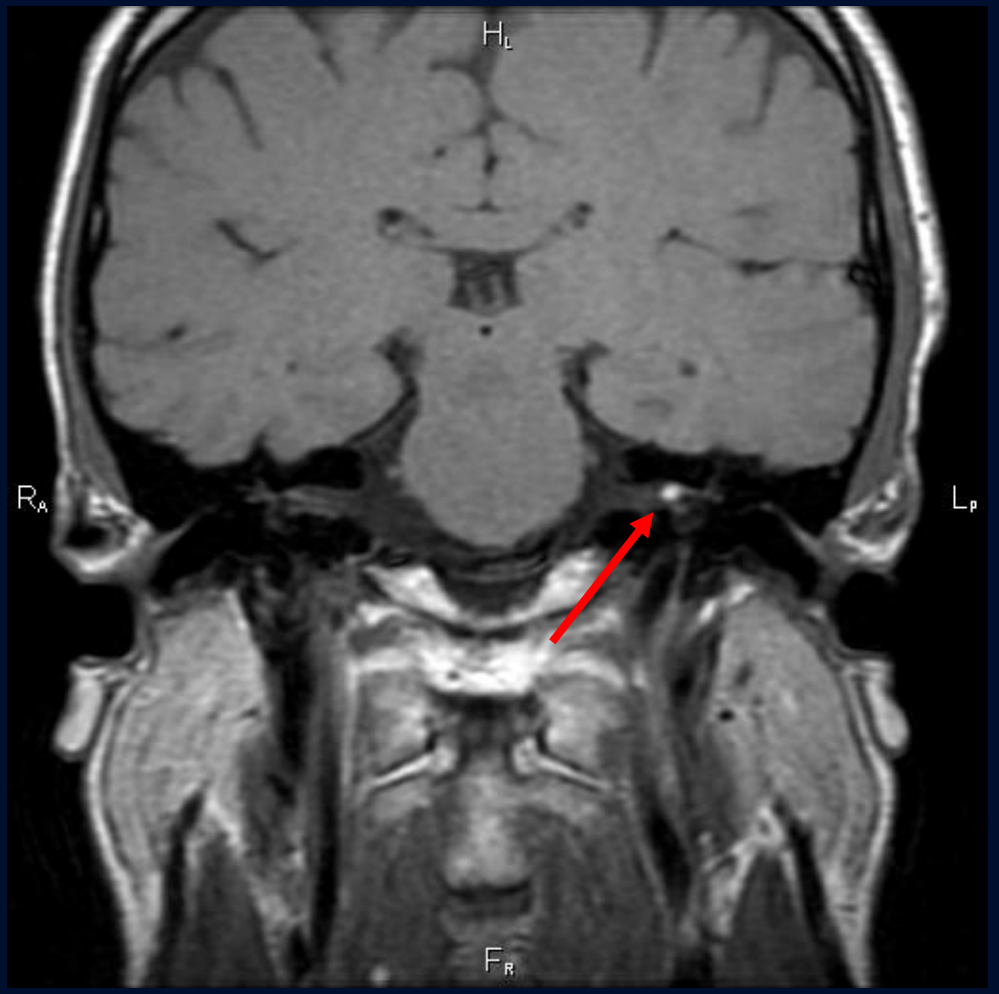
Coronal T1 Weighted MRI (w/o contrast)

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



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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

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Cerebellopontine Angle Mass Differential

Common entities affecting the cerebellopontine angle include:

- Vestibular Schwannomas
- Meningiomas
- Epidermoid Tumors
- Ependymomas

Distinguishing characteristics on imaging are summarized below:

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

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References

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