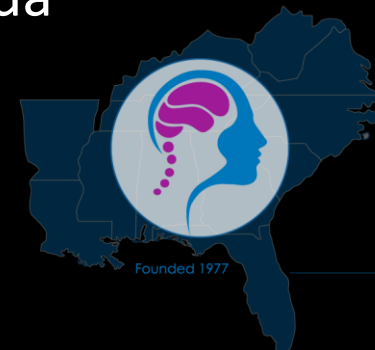


SENRS 2024

# The do-not-touch of MV-PLUS

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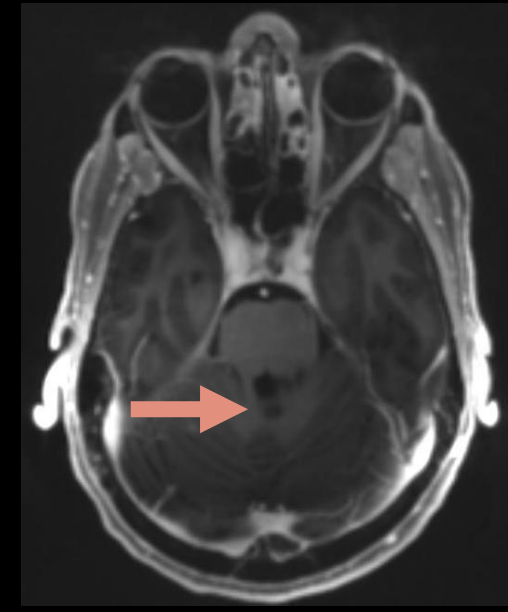
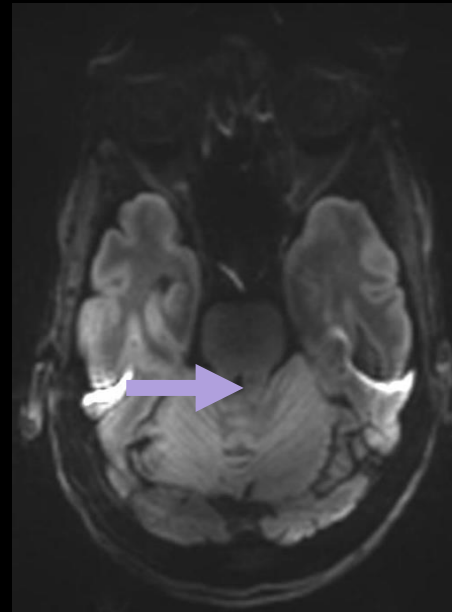
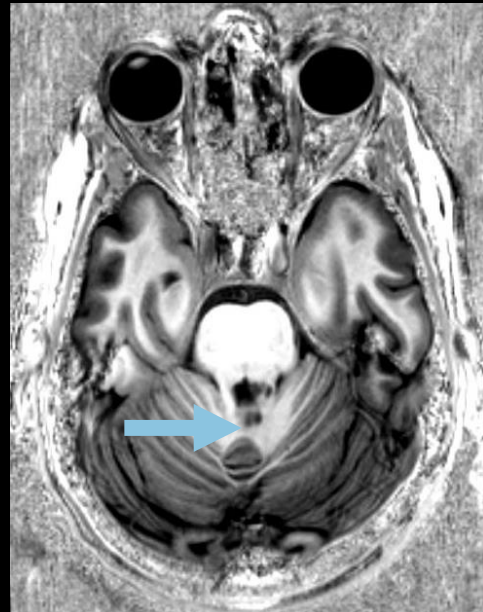
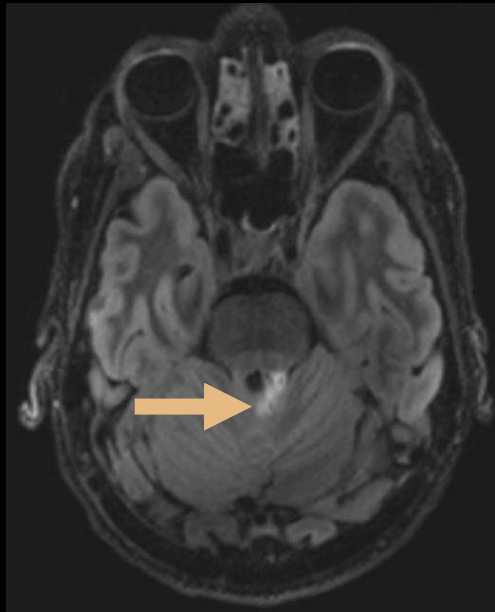
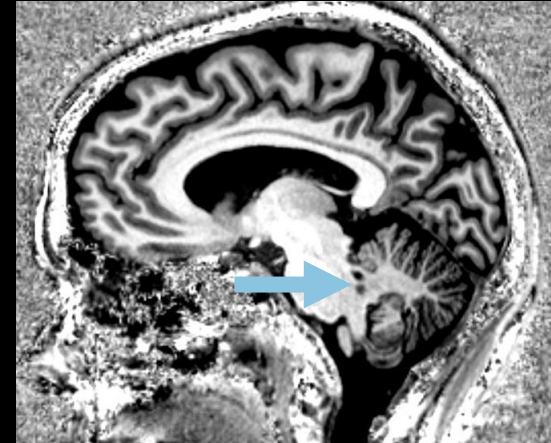
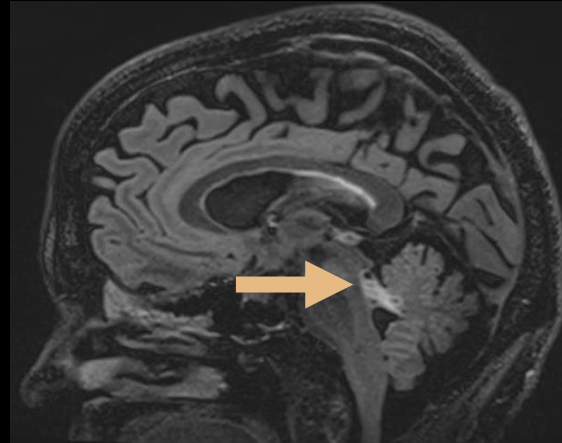
Southeastern  
Neuroradiological  
Society

# Presentation

- 61-year-old female
- No significant past medical, surgical, or family history
- Symptoms of dizziness and lightheadedness began in 2022
- Labs showed low B12 and normal CSF
- Referred to ENT who ordered brain MRI

# Imaging

- T2/FLAIR hyperintense
- T1 hypointense
- No restricted diffusion
- No enhancement

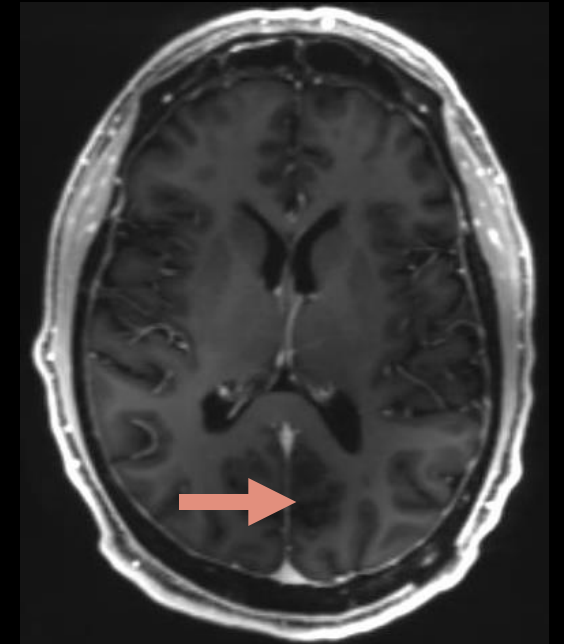
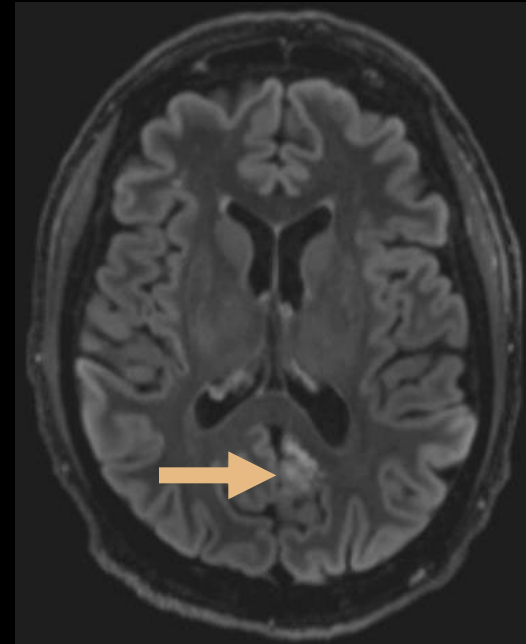
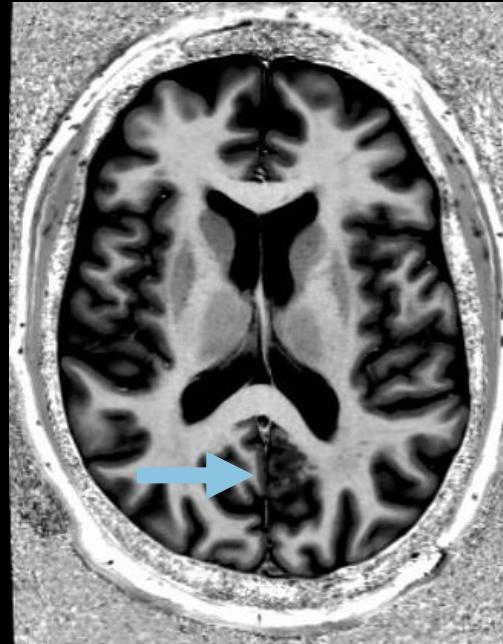


# Differential diagnoses

- Multinodular and vacuolating neuronal tumor (MVNT)
- Enlarged Virchow-Robin perivascular spaces
- Dysembryoplastic neuroepithelial tumor (DNET)

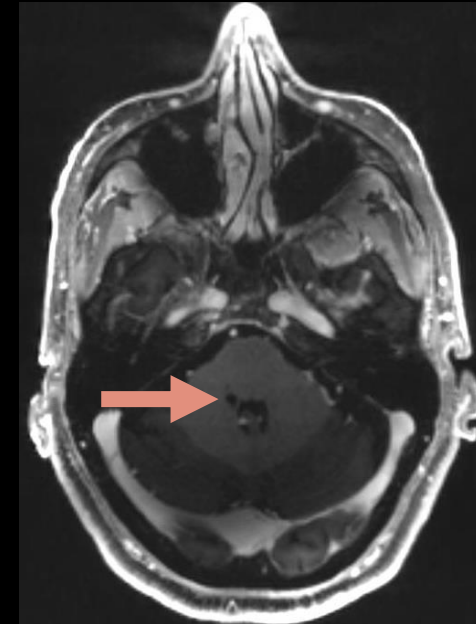
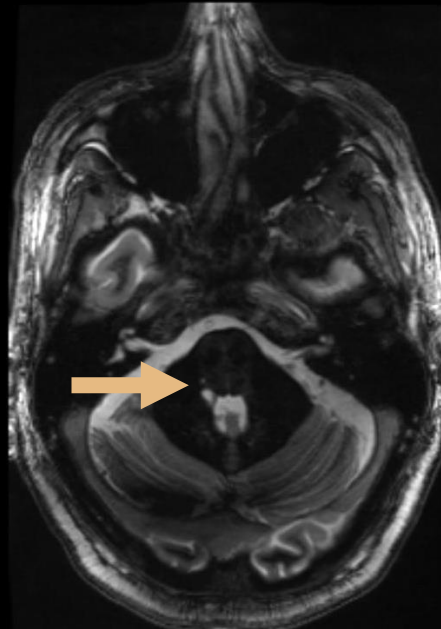
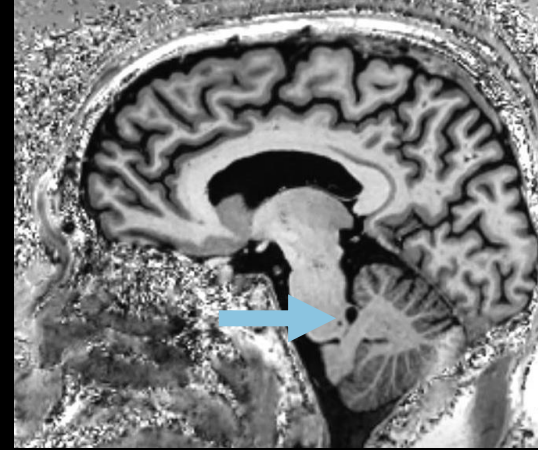
# MVNT

- Supratentorial, subcortical
- T1 hypointense
- Nodular FLAIR hyperintensity
- No enhancement
- No restricted diffusion
- No edema or mass effect



# Perivascular spaces

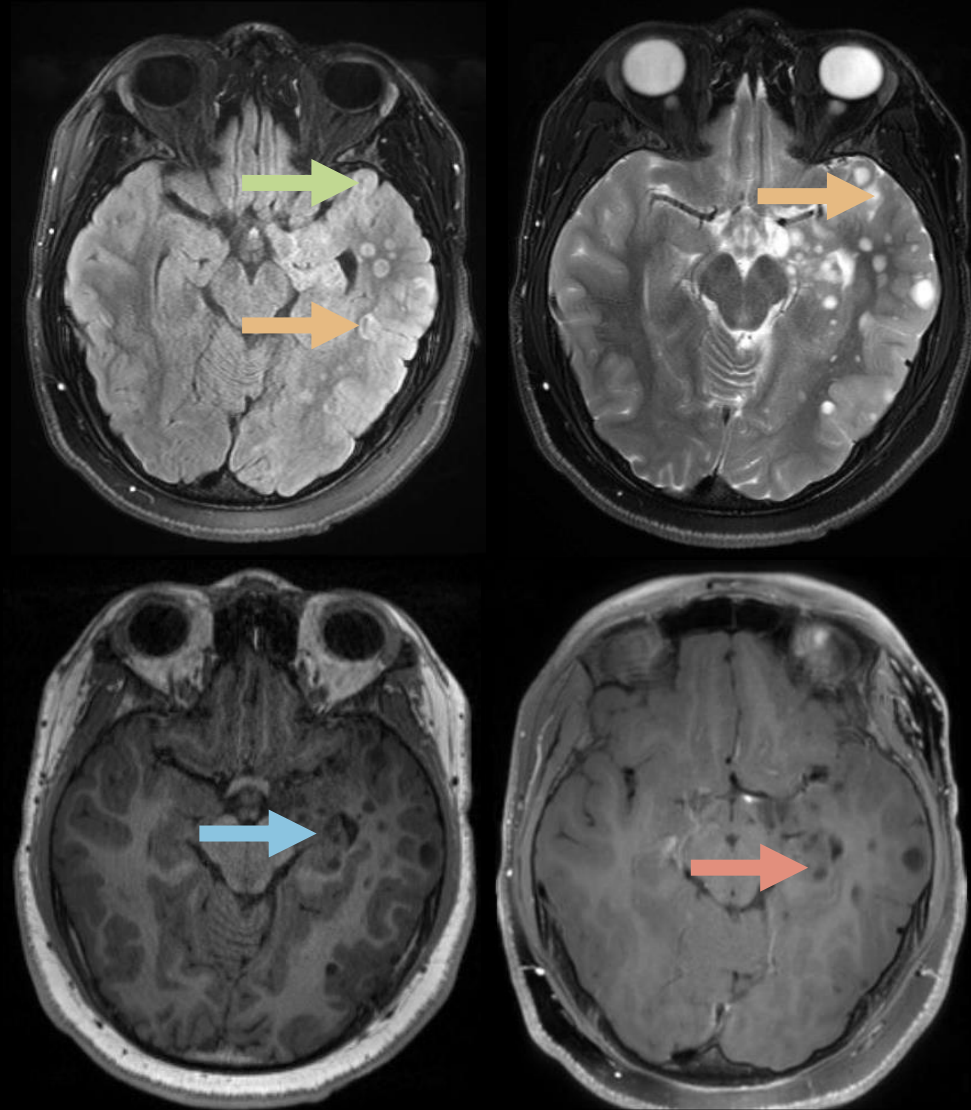
- Follows CSF signal on all sequences
  - T1 hypointense
  - T2 hyperintense
  - No enhancement
  - No restricted diffusion
  - Fully suppresses on FLAIR
- Asymmetric clusters
- Often in the mesencephalon/thalamic region





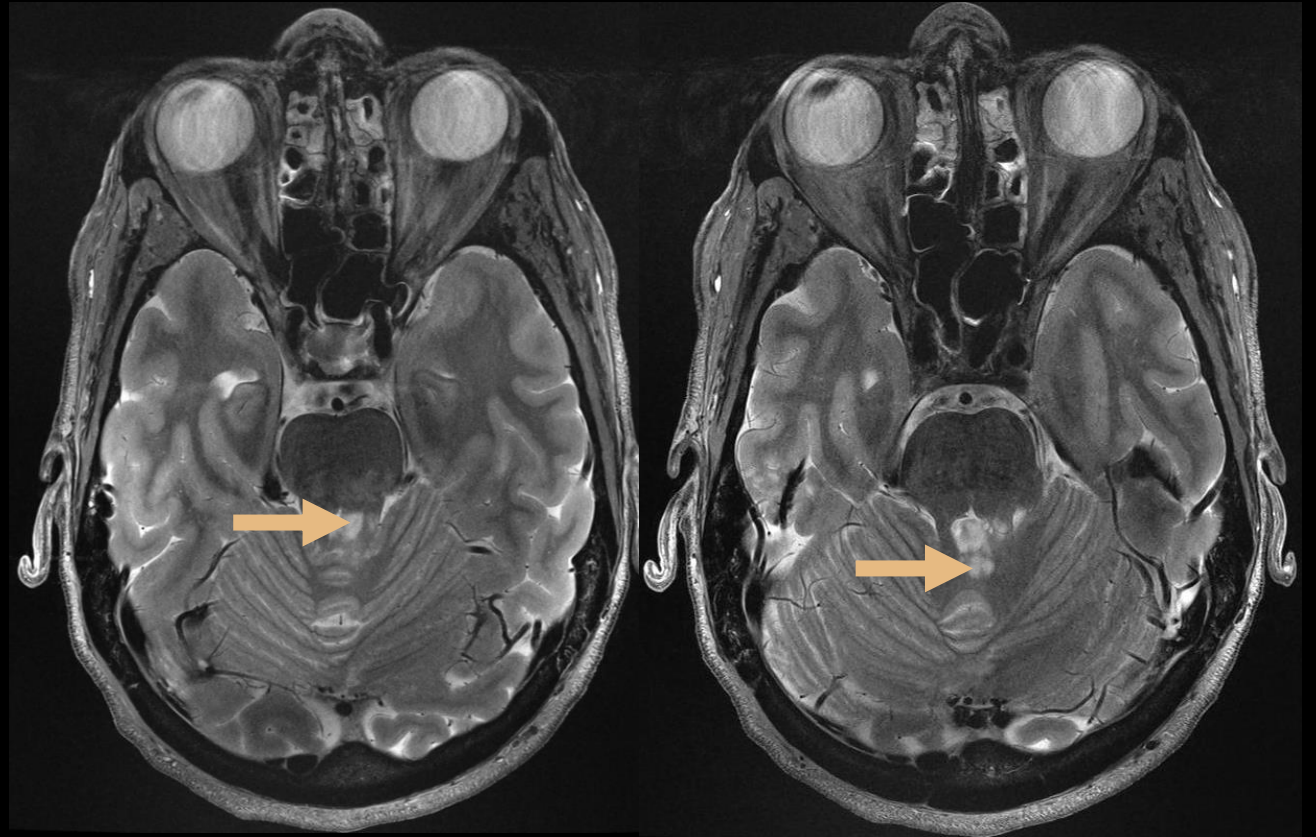
# DNET

- Cortically-based
- Cortical thickening
- T2/FLAIR hyperintense
- T1 iso-hypointense
- Variable enhancement
- Solid or cystic/bubbly appearing
- May calcify and cause bony scalloping



# Diagnosis: MV-PLUS

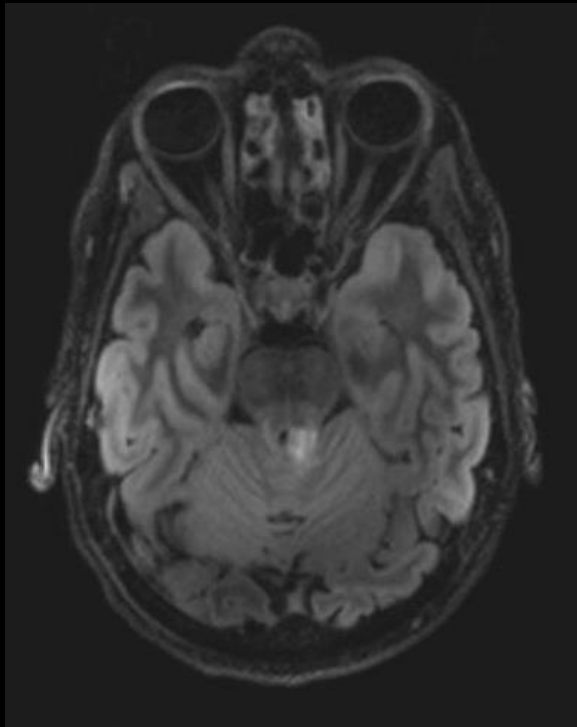
- Multinodular and vacuolating posterior fossa lesion of unknown significance
- Looks like MVNT but occurs in the posterior fossa
- Benign malformative lesion
- May see central hypointensity on T2/FLAIR



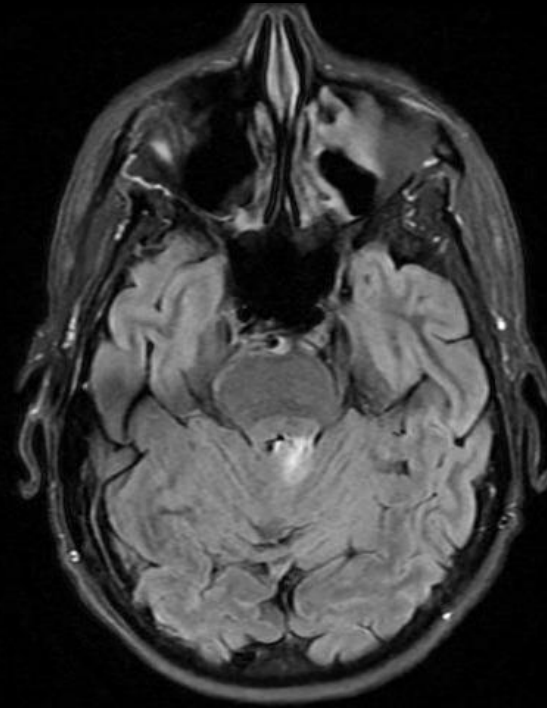


# Outcome

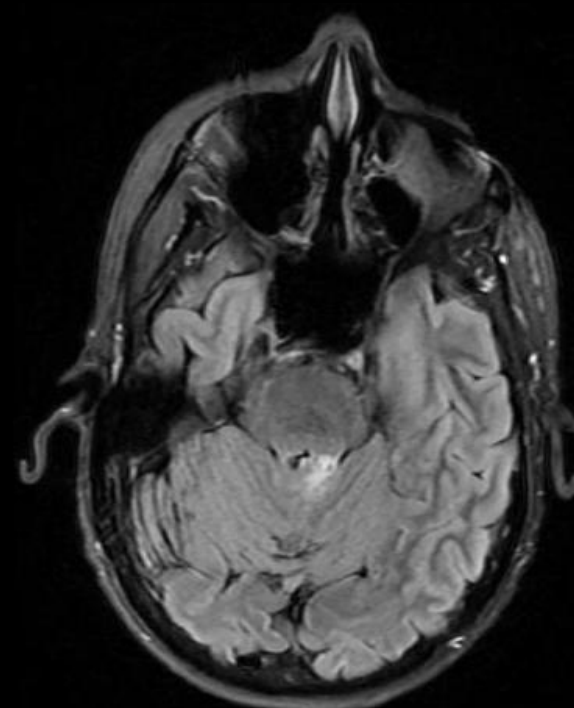
- Patient's symptoms of dizziness resolved with B12 supplementation
- Follow-up imaging has been stable



2/2024



8/2023



12/2022

# Management

- "Leave-me-alone" lesion
- Literature supports stability over time
- Follow-up imaging is recommended
- Inconclusive literature on whether location corresponds to symptoms

# Take home points

- MV-PLUS appears similar to MVNT but occurs in the posterior fossa
  - Vermis > cerebellar hemisphere > cerebellar peduncle
- Features include nodular cluster of T1 hypointense, T2/FLAIR hyperintense lesions without restricted diffusion, rare or no postcontrast enhancement
- Possibly 10 times rarer than MVNT
- “Do-not-touch” lesion

# References

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