

Acute Disseminated Encephalomyelitis

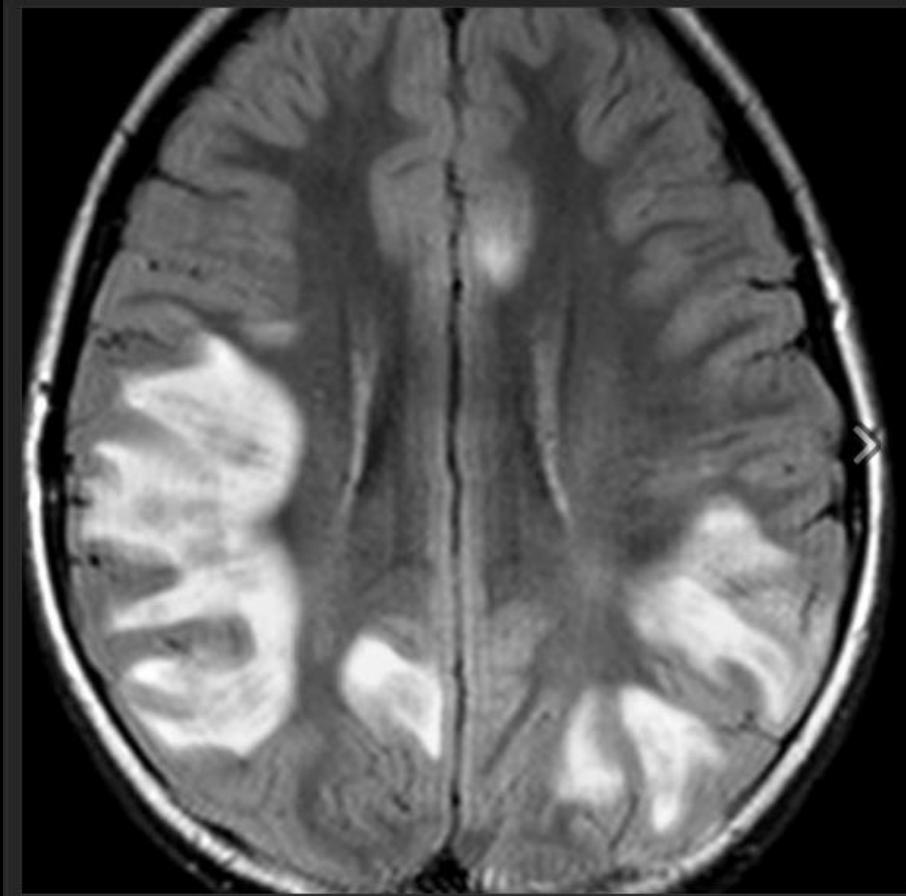
- Multifocal WM and deep grey lesions 1-2 weeks following infection/vaccination
- 93% within 3 weeks of infection, range 2 days to 4 weeks.
- Can involve brainstem and posterior fossa
- *Do not usually involve callososeptal interface.*
- Spinal cord involvement in up to 30%

ADEM

- Deep gray nuclei involved in 50%
- Mean age is 5-8 years, but can OCCUR at any age
- Today most common: EB virus, CMV
- Recovery within 1 month: 50-60%.
- Mortality: 10-30%.
- *Imaging findings often lag behind SYMPTOM onset, resolution!*

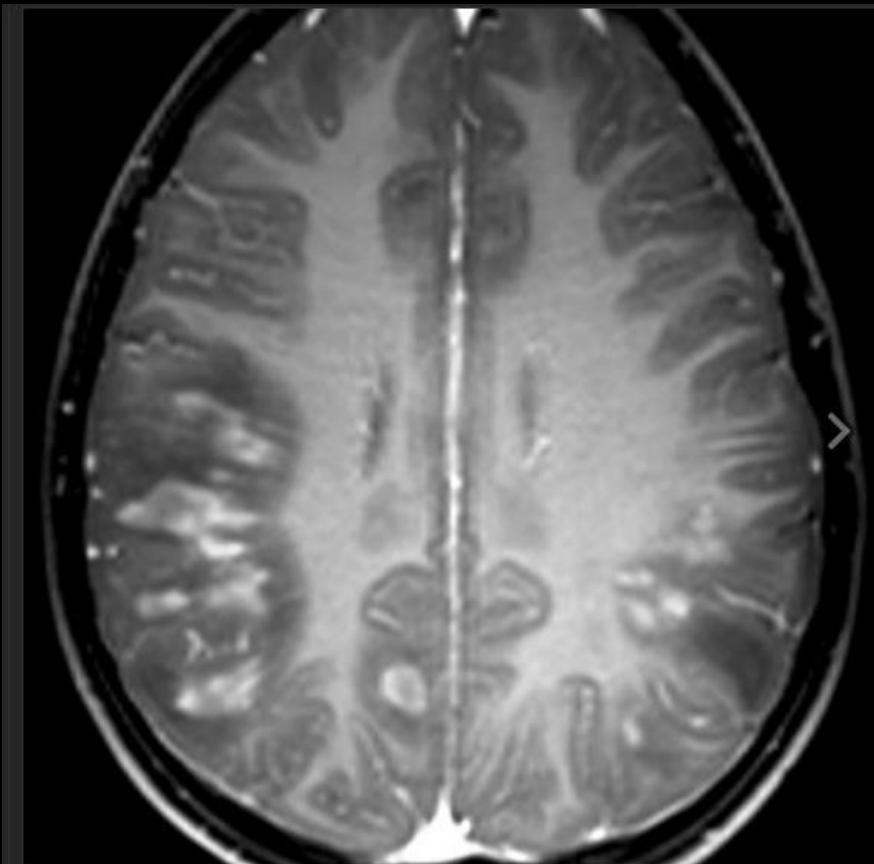
MS VS ADEM

- Predilection for periventricular WM (callososeptal interface), involves subcortical U-fibers, commonly in posterior fossa
- Lesions often more symmetric than ADEM
- Relapsing-remitting course common



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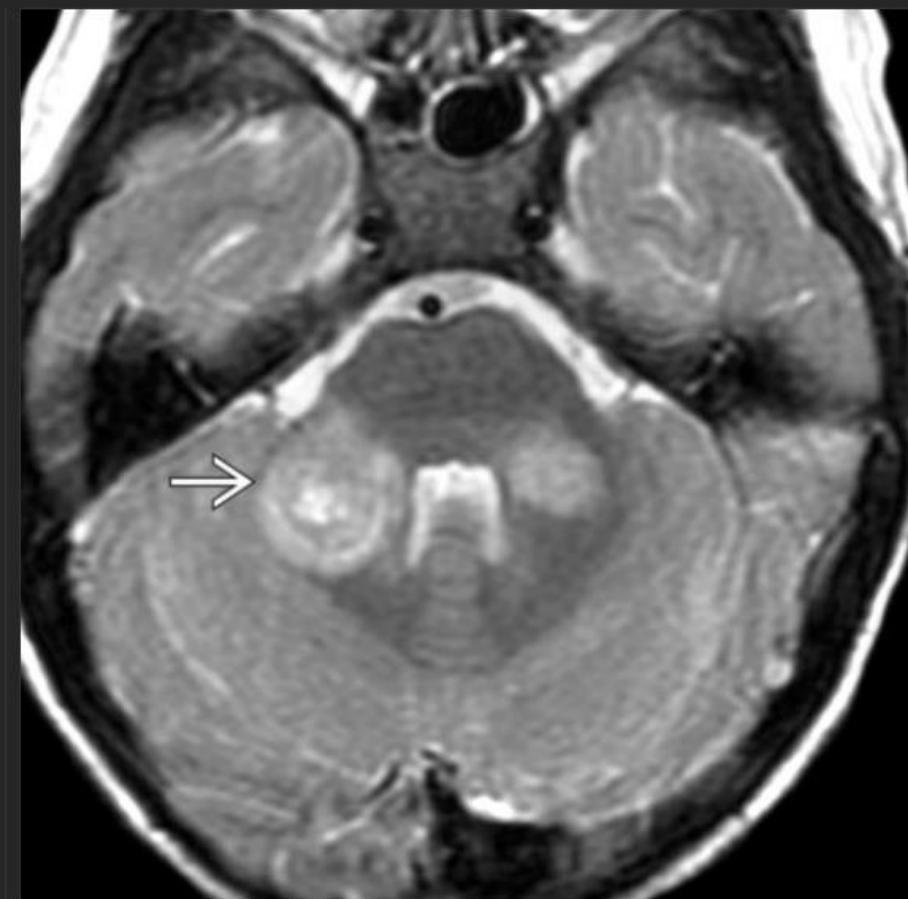
Axial FLAIR MR shows peripheral, confluent areas of hyperintensity predominantly involving the subcortical white matter in this child with ADEM. The bilateral but asymmetric pattern is typical of ADEM.



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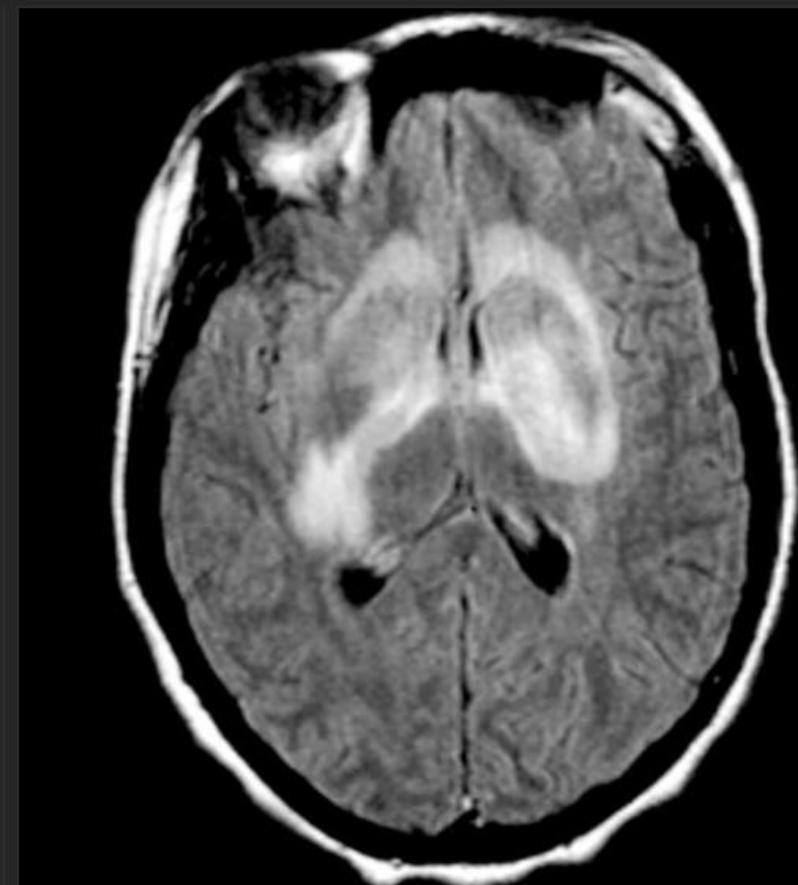
Axial T1WI C+ MR in the same patient shows marked, irregular enhancement of nearly all of the lesions. As ADEM is a monophasic illness, enhancement of the majority of lesions is typical, as the lesions all have a similar time course. Enhancement of MS lesions is more variable.

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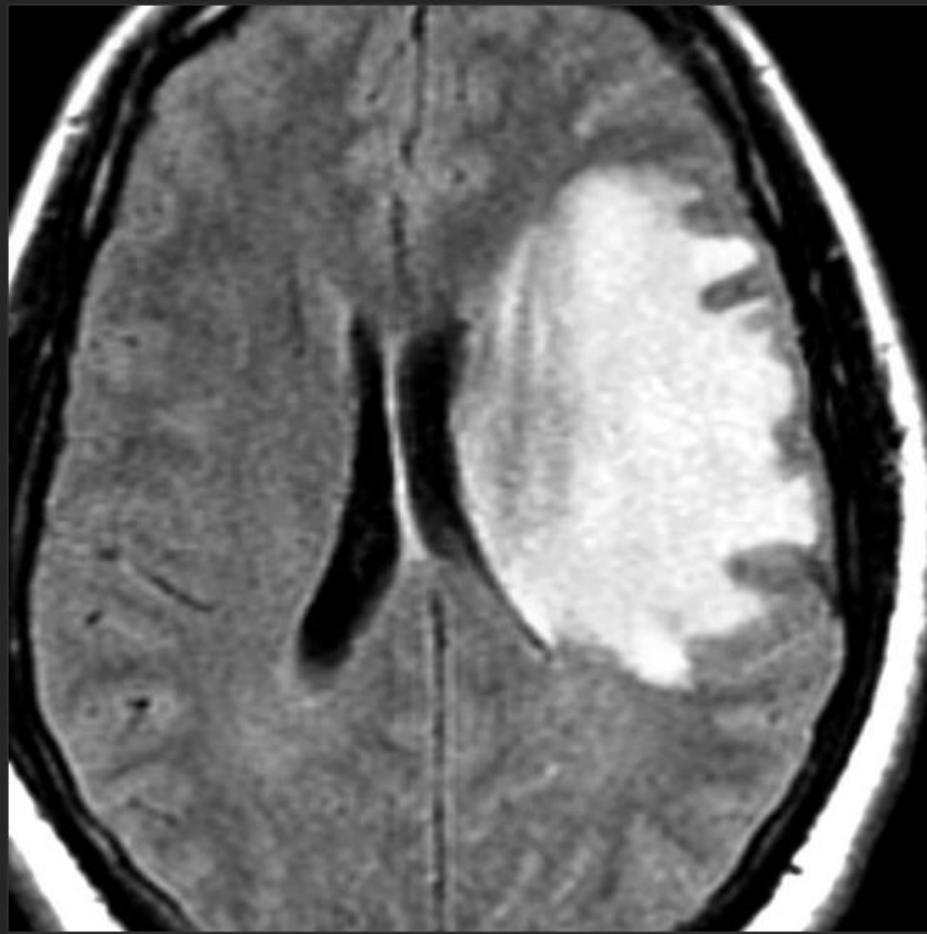
Axial T2WI MR shows hyperintense lesions in the brachium pontis bilaterally, typical for demyelination. The right-sided lesion shows a targetoid → appearance. Enhancement of several of the lesions was present on post-contrast T1 images (not shown).



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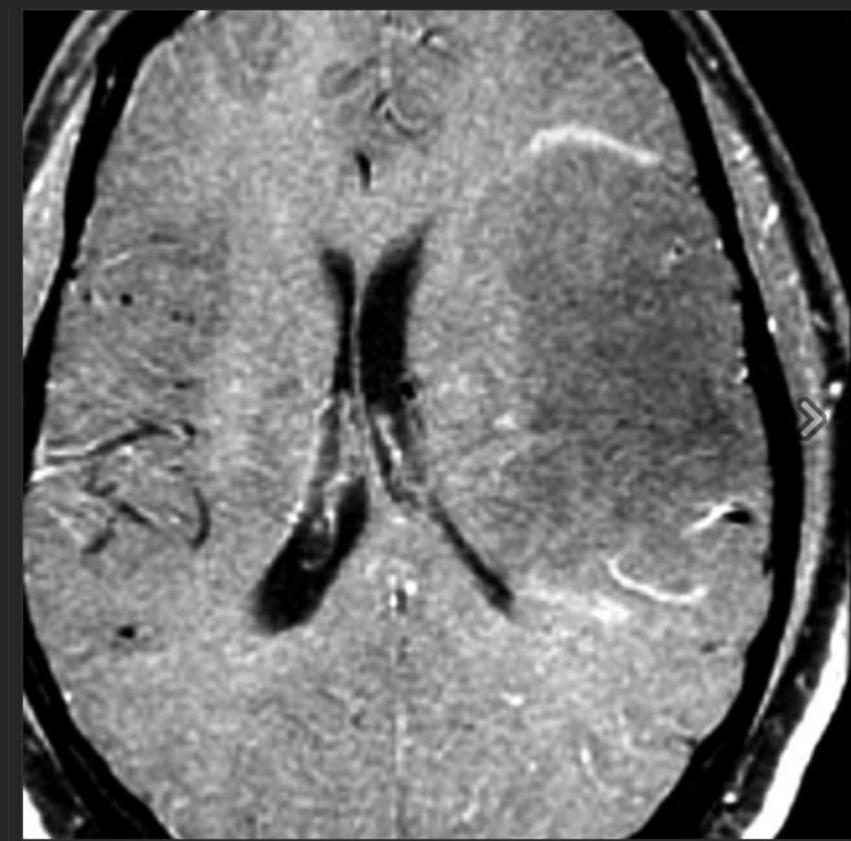
Axial FLAIR MR demonstrates a rare manifestation of ADEM: Bilateral striatal necrosis, evidenced by asymmetric confluent hyperintensity involving the gray and white matter of bilateral corpus striatum.

Tumefactive ADEM



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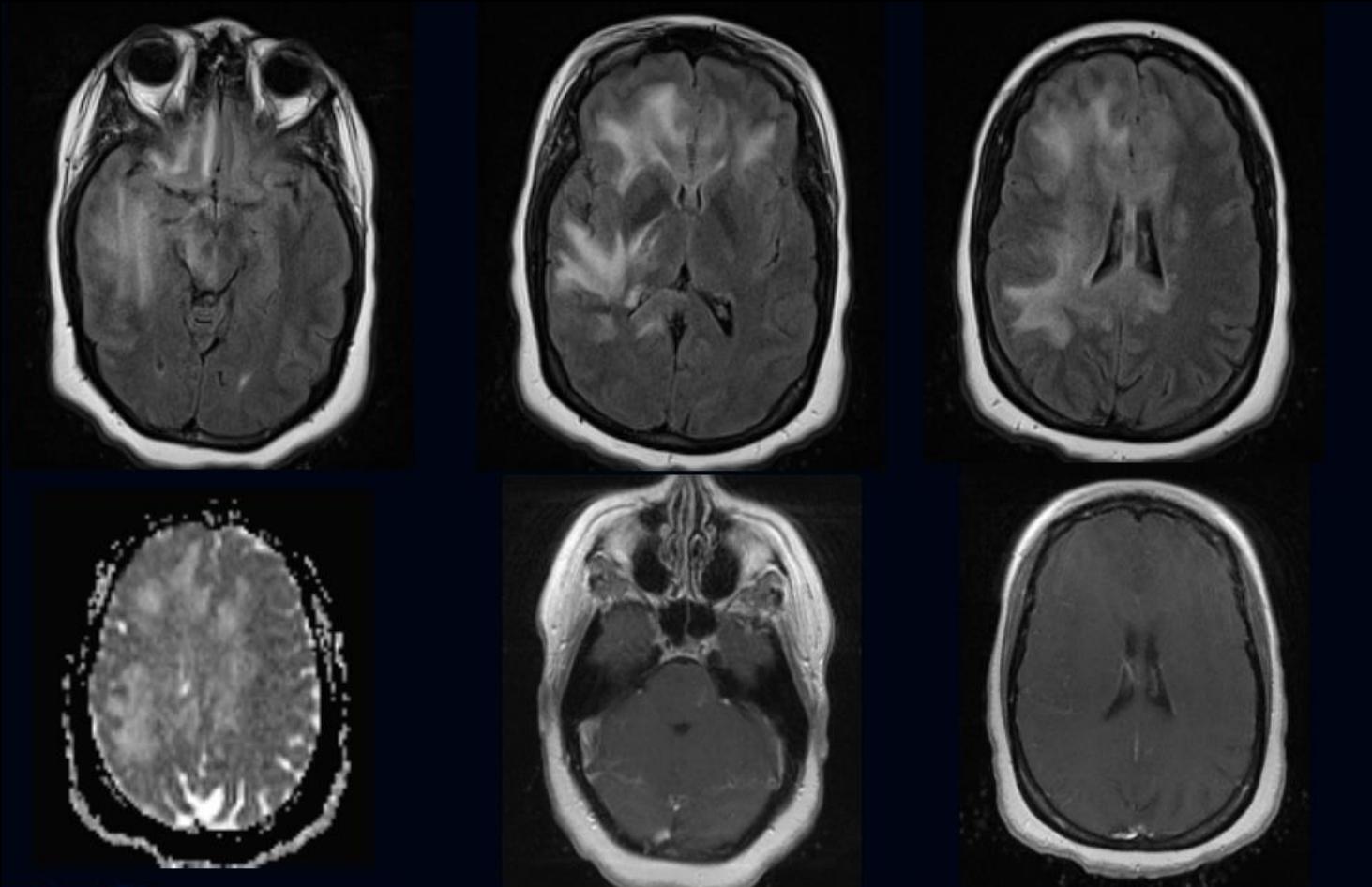
Axial FLAIR MR demonstrates a large, tumefactive, hyperintense lesion. Less mass effect is present than expected for lesion size. Smaller lesions were also present at other locations.



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Axial T1WI C+ MR demonstrates a large, tumefactive, hypointense lesion with minimal partial peripheral enhancement. Less mass effect is present than expected for lesion size. More lesions were seen elsewhere.

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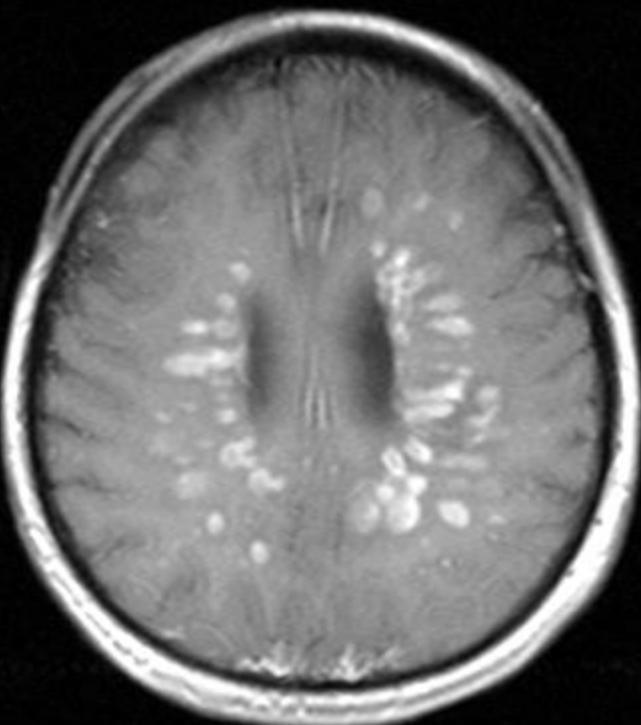


Penn
Medicine

34 year-old woman with recent viral prodrome,
presenting with acute change in mental status,
bladder incontinence, and right gaze

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- All typically enhance at once.
- MS is more variable



Acute disseminated encephalomyelitis

