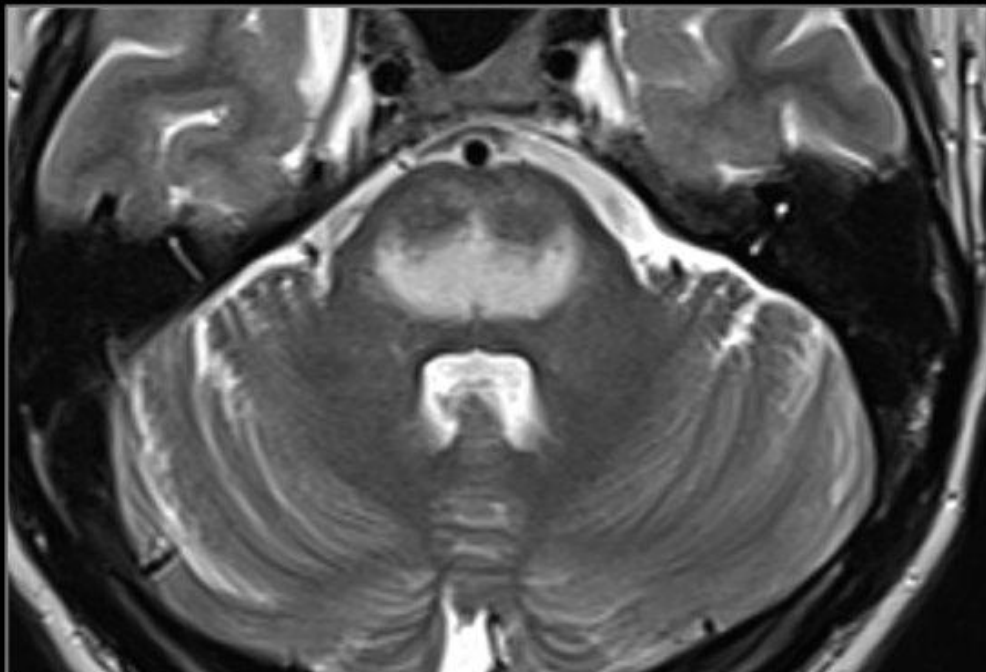


Osmotic Demyelination Syndrome

- Acute demyelination from rapid shifts in serum osmolality
- Classic setting: Rapid correction of hyponatremia
- ODMS may occur in normonatremic patients!

TRIDENT SIGN

OSMOTIC DEMYELINATION SYNDROME



Symmetrical high T2 signal centrally in the pons with relative sparing of the corticospinal tracts shaped like a trident, the three-pronged spear of classical Greece and Jason Momoa in Aquaman.

Osmotic Demyelination Syndrome

- Central pons T2 hyperintensity with sparing of periphery
- 50% in pons (CPM); 50% in extrapontine sites (EPM)
- Central fibers involved; peripheral fibers spared
- Basal ganglia (BG)
- Cerebral white matter (WM)
- CPM + EPM = almost pathognomonic for ODMS

Osmotic Demyelination

- Seizures, altered mental status
- Often biphasic when hyponatremia present
- ODMS symptoms emerge 2-4 days
- Occasionally weeks after correction of hyponatremia



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Axial T2WI MR in a hyponatremic, alcoholic patient with rapid correction of serum sodium shows central pons hyperintensity with sparing the peripheral pontine fibers. These findings are characteristic of osmotic demyelination syndrome.

Central pontine myelinolysis



Can be triangle with apex in mid line pointing forward

Infarct typically off midline with apex pointing posteriorly

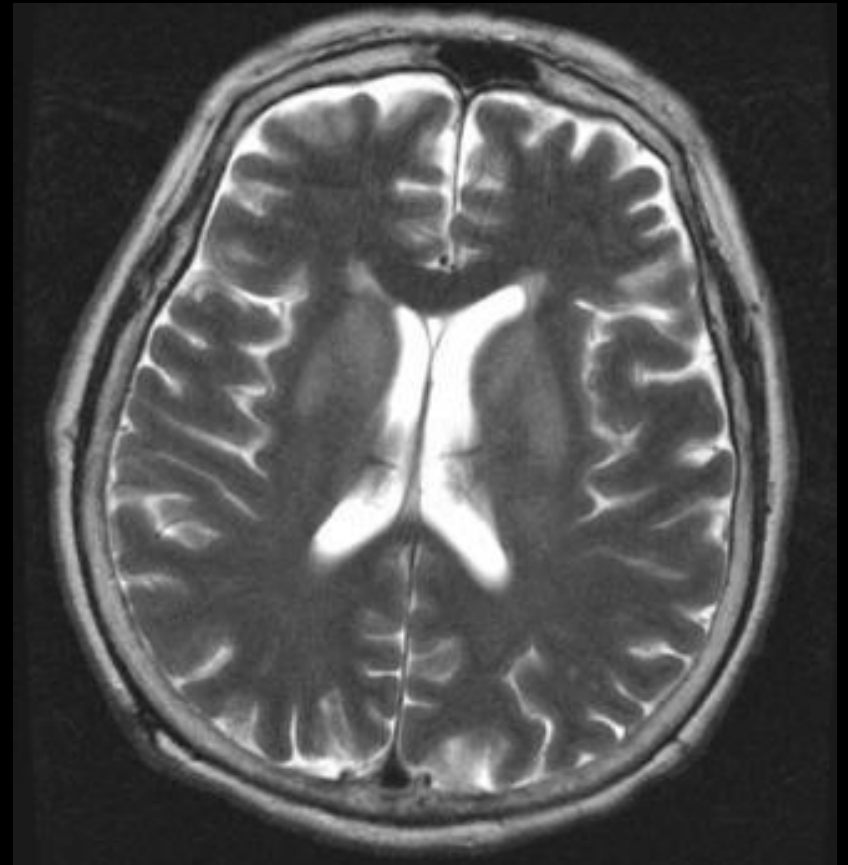
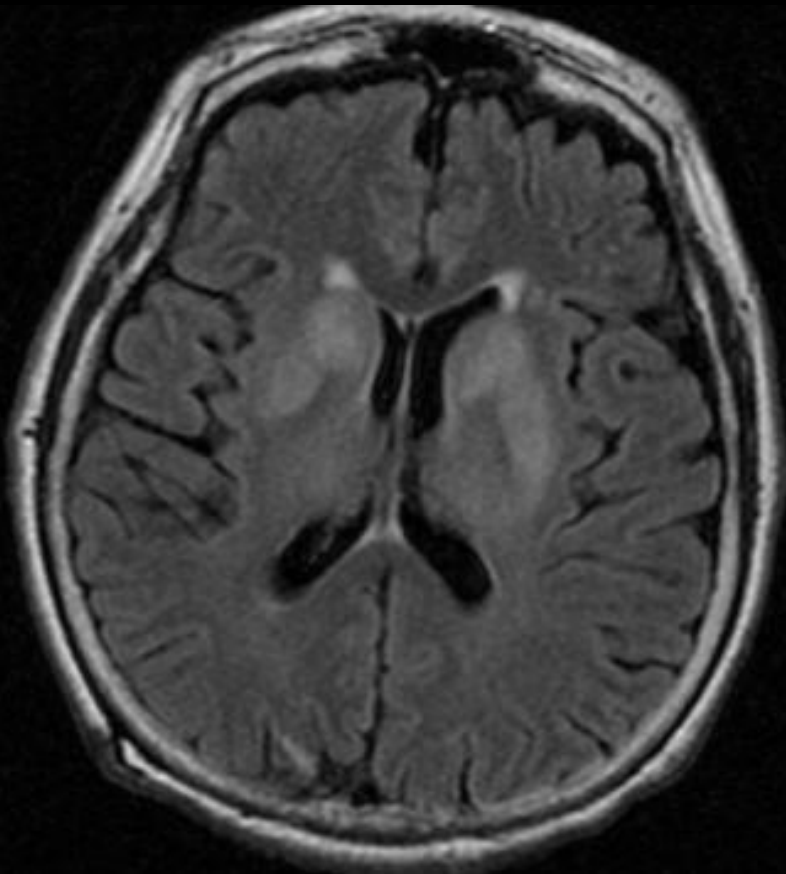


= myelinolysis



= Infarct

Osmotic myelinolysis



Osmotic Demyelination

