Teaching NeuroImage: Dura Mater Thickening and Enhancement in Anti-NMDAR Encephalitis

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A 33-year-old man presented with baryglossia, memory disturbance and seizures for a month. Workup for infectious and rheumatic disease was negative. Serum and cerebrospinal fluid anti-NMDAR antibody were positive. MRI showed cortical and subcortical hyperintensities with adjacent pachymeninges thickening and enhancement (Figure, A-D). Treatment with immunoglobulin and high-dose methylprednisolone produced significant improvement in the symptoms and resolution of changes on the post-treatment MRI (Figure, E-H).

The frequently reported abnormalities on MRI in anti-NMDAR encephalitis are leptomeningeal enhancement and T2/FLAIR hyperintensity cortical and subcortical in temporal lobe, followed by frontal lobe, periventricular region and cerebellum, rarely involving the dura mater.\(^1\)

References

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Figure. Neuroimaging (MRI) during the course of the disease
Fluid-attenuated inversion recovery (FLAIR) images (arrow heads; A–B) showed multiple cortical and subcortical hyperintensities with adjacent dura mater thickening and enhancement (arrows; C-D). The FLAIR hyperintensities and dural enhancement improved after treatment (E-H).
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