α -Interferon encephalopathy

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A 44-year-old woman treated by interferon-alpha (IFN- α) monotherapy for metastatic renal cell cancer presented with progressive apathy and slight subjective memory loss as well as two seizures. EEG showed multifocal epileptiform discharges. Lumbar puncture results were normal. MRI demonstrated hyperintensities in the basal ganglia and the adjacent white matter but no other significant lesions (figure). After stopping IFN- α , the patient's clinical state normalized, as did MRI 3 weeks later. This is in accordance with the animal¹ and human data on interferon encephalopathy caused mainly by vasogenic edema, and thus represents a reversible complication of immunotherapy.²

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Figure. Acute MRI (upper row) disclosed hyperintensities in the basal ganglia, the frontoorbital cortex, and the adjacent white matter appearing in the fluid-attenuated inversion recovery images, but without contrast or changes in diffusion-weighted imaging, which argues for vasogenic edema without cytotoxicity. MRI 3 weeks later (bottom row) shows that the lesions disappeared. A small structure evoking carcinomatous meningitis remained unchanged (not shown).

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