The Importance of Neuro-Imaging in Patients with Symptomatic Presentation of Both Cortical and Subcortical Dementia

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A 45-year-old male presented to the emergency department with a 6 month decline in cognitive function, confusion, gait disturbance, dizziness, and personality change that started after release from immigration jail. His family initially believed that he was acting to get out of jail. However, his symptoms continued to worsen. Upon presentation, he was unaware of place or time, had difficulty answering questions, and could not follow directions. He was hypertensive, complained of nausea with episodes of non-bloody vomiting, and had migraines that would awaken him from sleep. Family history included the death of his father at a young age due to unknown causes, and an unknown mental health disorder in his mother. Negative urine drug screen, blood alcohol level, ammonia levels, and blood culture combined with the progressive nature of his memory loss and cognitive slowing originally led physicians to suspect Early Onset Alzheimer's Disease. However, further neuroimaging was conducted due to unknown family history and possible head trauma while in jail. Imaging included a head CT that revealed nonspecific white matter hypodensities in the high frontal lobes. Carotid ultrasound revealed no significant plaque buildup. Brain MRI revealed innumerable scattered punctate foci raising suspicion for subcortical vascular dementia. Binswanger Disease and Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy (CADASIL) are both forms of subcortical vascular dementia that are being explored as causes for this patient's decline.

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