

67 y/o male with gait instability, bradykinesia, and visual illusions

Obaid Anwar, MD

Yitong Fu, MD

University of Tennessee Graduate School of Medicine

Knoxville, TN



Clinical Presentation

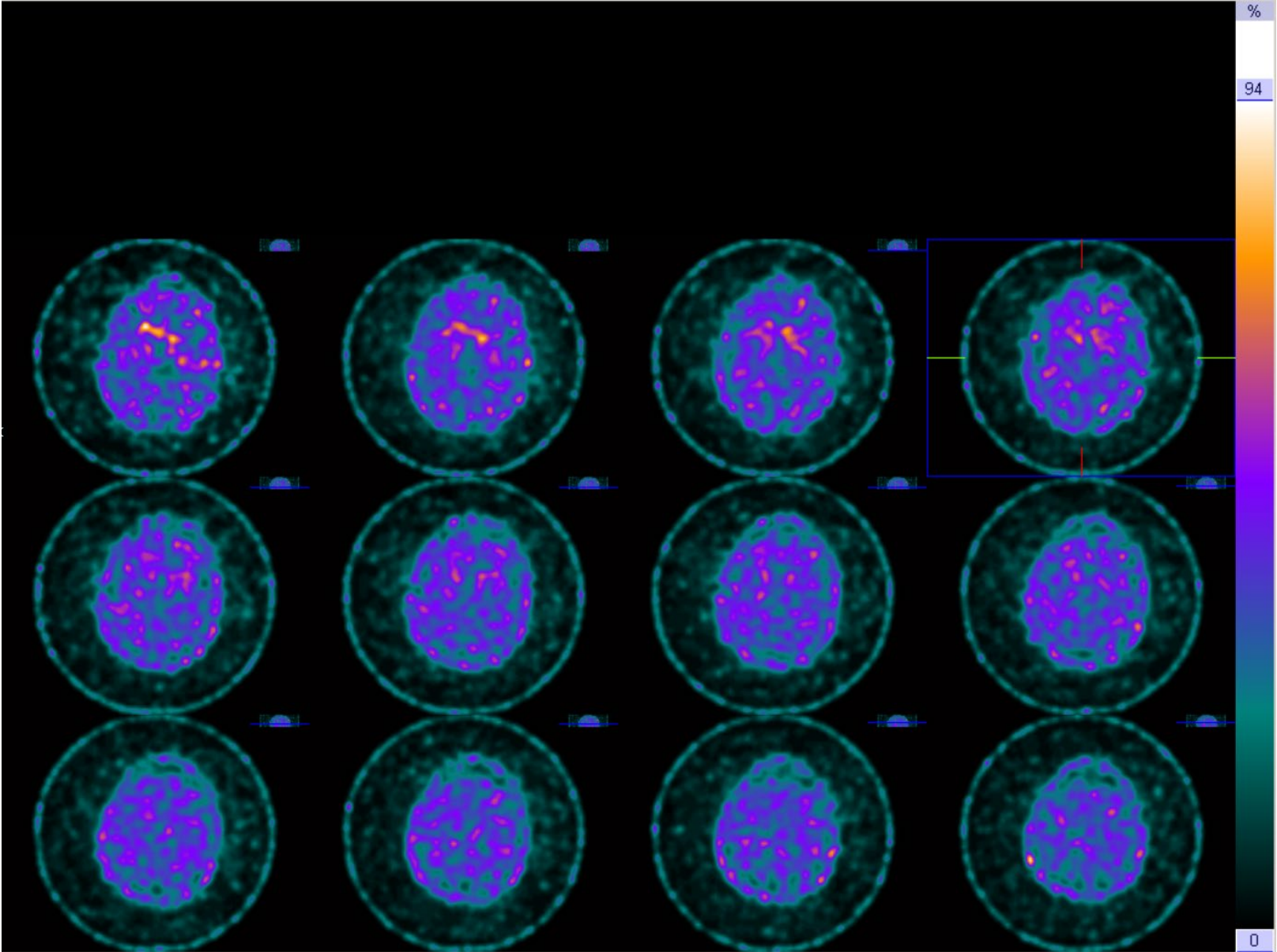
- 67yoM w/ history of restless leg syndrome presents with gait instability, right upper extremity rigidity, and right lower extremity tremor.
- Initial brain MR showed mild presumed chronic microvascular ischemic changes.
- Working diagnosis of Parkinson's disease.

Clinical Presentation

- The patient had minimal motor symptom response to L-Dopa and began having visual illusions.
- DaTscan, PET Brain, and Nuclear Medicine MIBG of the heart were performed for further evaluation.

DaTscan
1/5/23

Abnormal study with essentially no significant uptake in the striata suggestive of a parkinsonian syndrome. Additional etiologies include medication interfering with radiotracer uptake or radiopharmaceutical impurities.



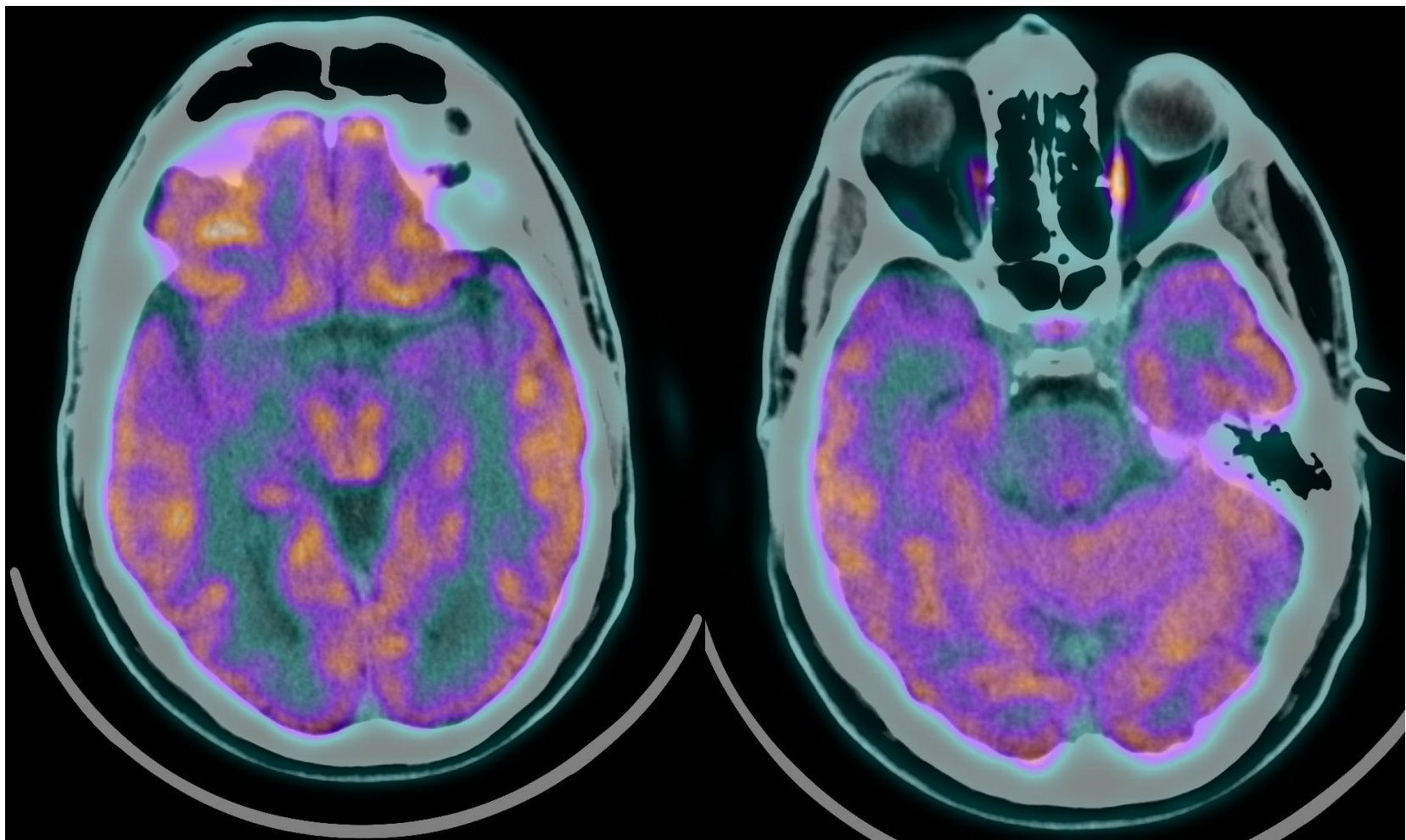
Initial differential

- Parkinson's disease
- Idiopathic Parkinson's disease
- Multiple Systems Atrophy
- Progressive Supranuclear Palsy
- Medication interfering with radiotracer uptake
- Radiopharmaceutical impurities

PET Brain
3/9/23

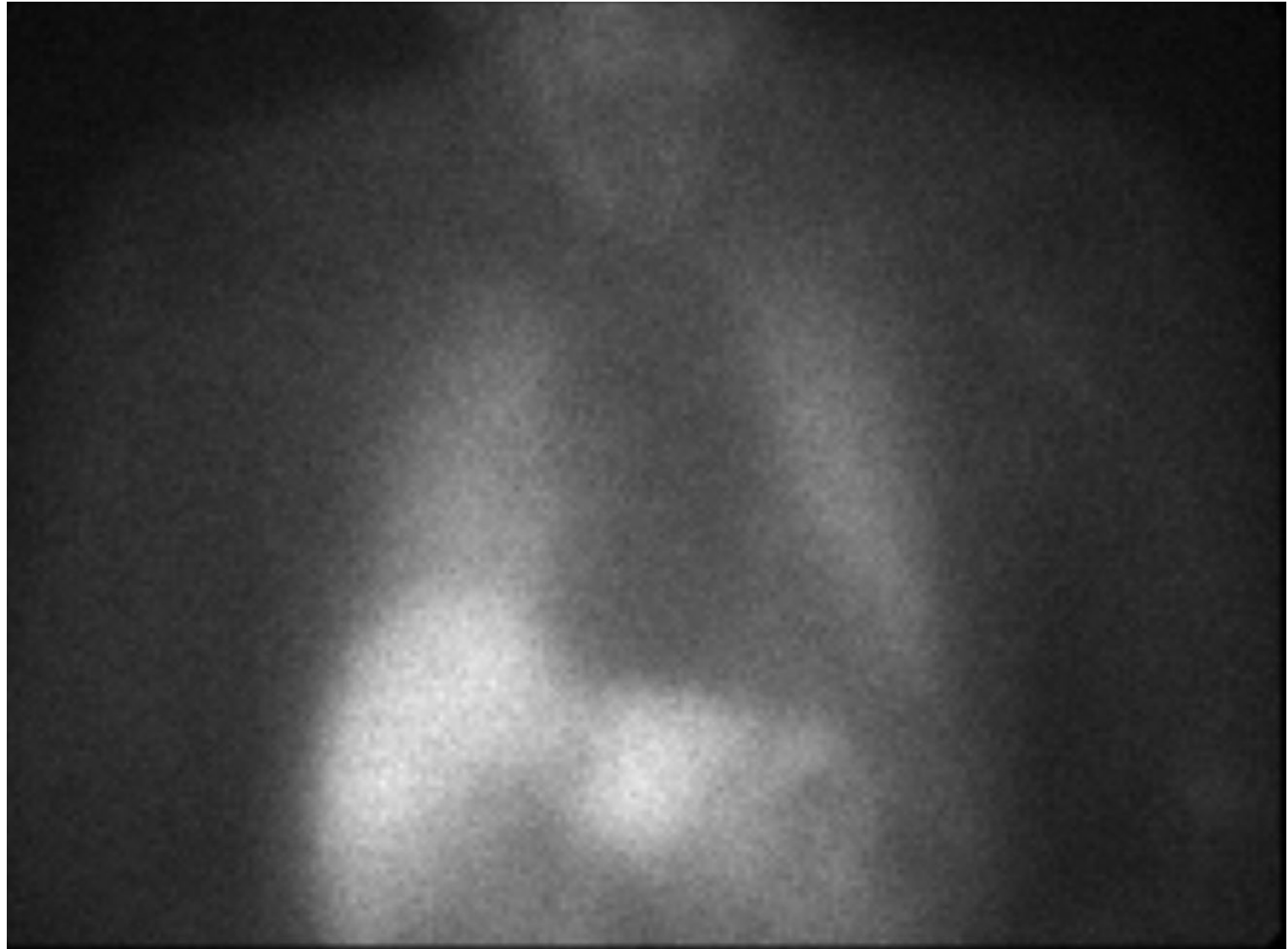
Decreased uptake in the right greater than left parieto-occipital lobes. Mildly decreased uptake in the anterior medial temporal lobes. Cingulate gyrus activity maintained.

Hypometabolism pattern which can be seen with Parkinson's disease related dementia. Lewy body dementia not excluded.



NM MIBG
3/7/23

No significant myocardial uptake
representing diffuse cardiac autonomic
dysfunction. Suggestive of Idiopathic
Parkinson's.



Management/Outcome

- In combination with imaging and clinical symptoms, the patient was diagnosed with an atypical form of idiopathic Parkinson's (nonmotor clinical subtype).
- The patient is continued to be treated with Carbidopa/Levodopa and Ropinirole as there was nonmotor symptom response to treatment.

Take Home points

Differential for abnormal DaTscan includes Parkinson's, Idiopathic Parkinson's, MSA, and PSP

MIBG can be used to differentiate Idiopathic Parkinson's and MSA

Multimodality approach and clinical findings may be necessary for diagnosis

References

- Matthews DC, Lerman H, Lukic A, et al. FDG PET Parkinson's disease-related pattern as a biomarker for clinical trials in early stage disease. *Neuroimage Clin.* 2018;20:572-579. Published 2018 Aug 10. doi:10.1016/j.nicl.2018.08.006
- Braune S, Reinhardt M, Schnitzer R, Riedel A, Lücking CH. Cardiac uptake of [123I]MIBG separates Parkinson's disease from multiple system atrophy. *Neurology.* 1999;53(5):1020-1025. doi:10.1212/wnl.53.5.1020