

Frontotemporal Hypometabolism in Medication-Induced Tardive Dyskinesia

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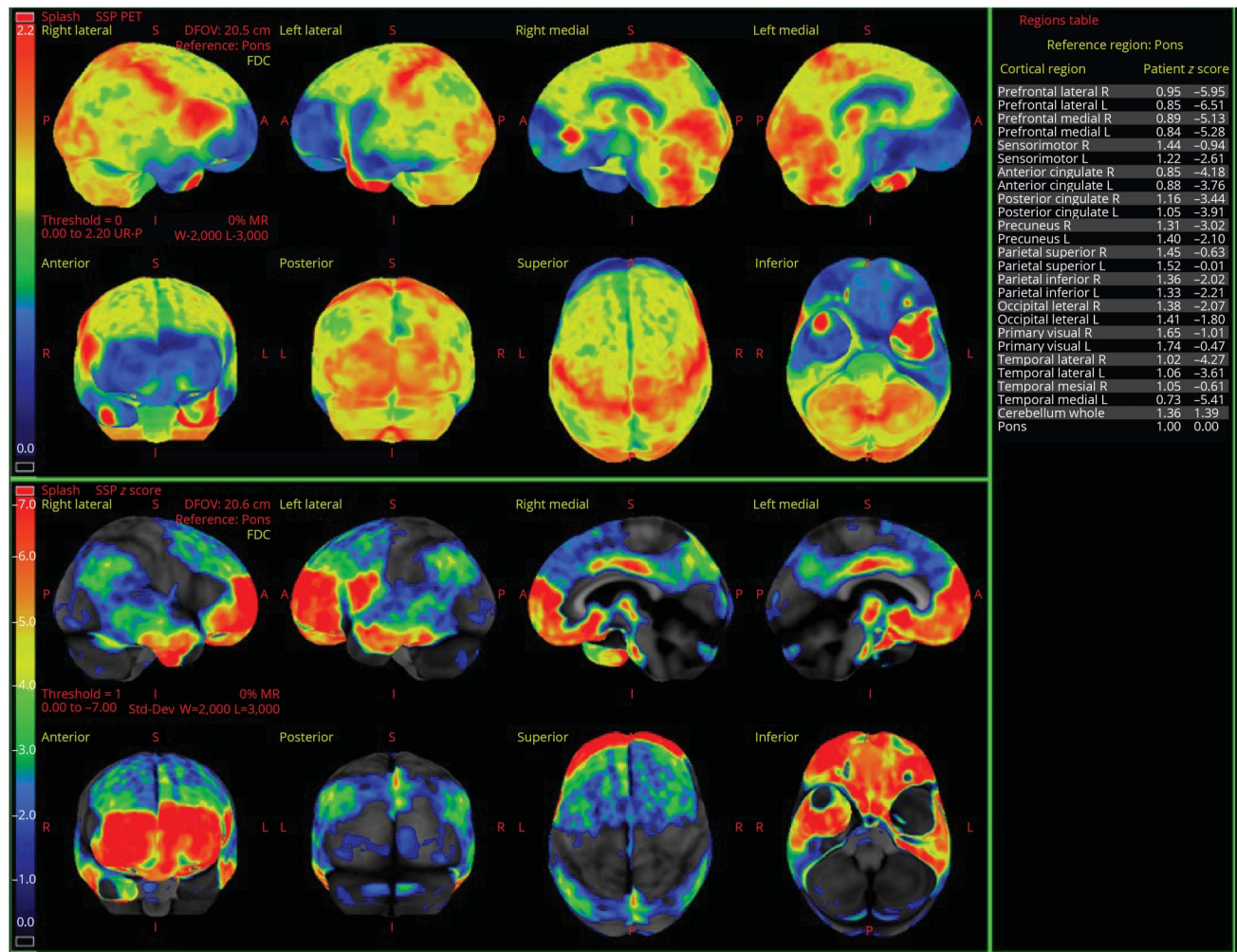
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Figure 1 Initial PET-CT Scan



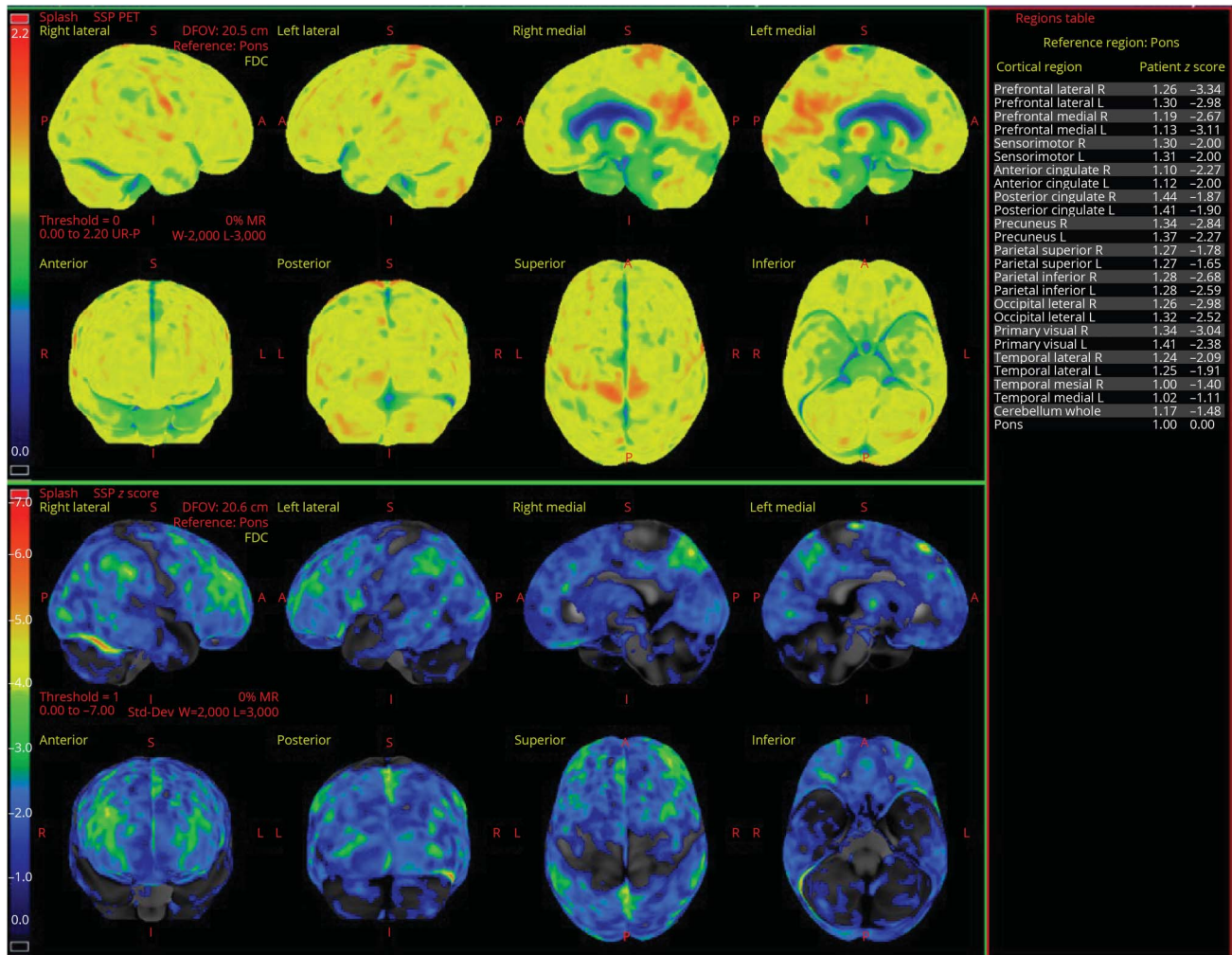
Hypometabolism, bilateral frontal, temporal lobes, and caudate. Top: Patient's scan; bottom: Z-score map standard deviation below age-normative data (blue: -1 SD; light blue: -2 SD; light green: -3 SD; yellow: -4 SD; orange: -5 SD; light red: -6 SD; red: -7 SD).

A 59-year-old man had severe and constant oral, facial, lingual dyskinesias and memory loss after metoclopramide and prochlorperazine treatment for approximately 3 months. Brain MRI and reversible causes of memory loss (vitamin B₁₂, folate, and thyroid-stimulating hormone) were normal. PET CT scan (Figure 1) showed significant hypometabolism of bilateral frontal, temporal lobes and caudate nuclei. Repeat PET-CT scan 3 months after discontinuing

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Figure 2 PET CT 3 Months Post-Tetrabenazine Treatment



Significant improvement of frontal, temporal lobes and caudate hypometabolism.

antiemetics and during treatment with 12.5 mg of tetrabenazine twice daily (Figure 2) showed marked improvement of frontotemporal and caudate hypometabolism. The patient also experienced resolution of dyskinesias and memory loss.

Medication-induced tardive dyskinesia can show a hypometabolic pattern mimicking frontotemporal dementia¹ because of the frontal connection between caudate nuclei and frontal cortex.² However, hypometabolism can improve after diagnosis and treatment. Thus, the caudate should always be evaluated during PET scan interpretation. Our case supports that PET scan results with caudate involvement and exposure to potential offending drugs can be confused with a neurodegenerative condition.

Author Contributions

T. Liu: drafting/revision of the article for content, including medical writing for content; major role in the acquisition of

data. E. Benarroch: drafting/revision of the article for content, including medical writing for content; analysis or interpretation of data. W. Hogan: study concept or design; analysis or interpretation of data. A. McKeon: study concept or design; analysis or interpretation of data. V.J. Lowe: study concept or design; analysis or interpretation of data. R. Savica: drafting/revision of the article for content, including medical writing for content; major role in the acquisition of data; study concept or design; and analysis or interpretation of data.

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