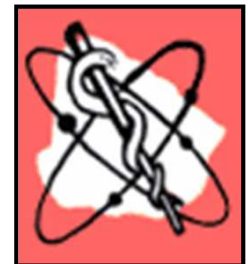


74 year-old female

Cognitive impairment with frontotemporal profile in neuropsychological study

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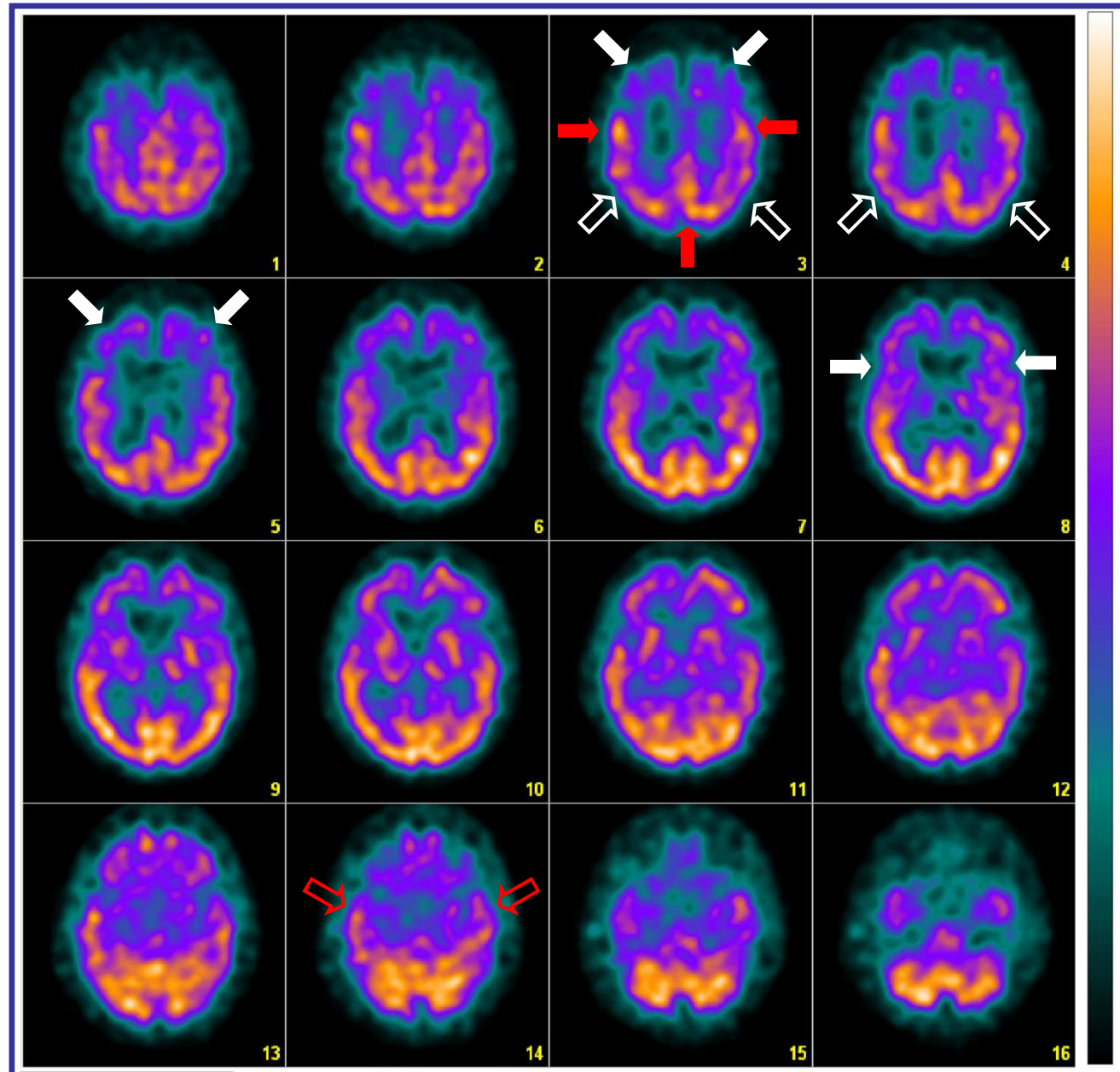


Clinical statement

- 74 y/o female.
- Dyslipidemia. Hypertension.
- Multinodular goiter.
- Extrapyrarnidal signs, frequent falls.
- Late life depression LLD.
- Cognitive impairment with frontotemporal profile in neuropsychological study.

- Brain SPECT is indicated for further evaluation in a patient with neuropsychological study suggestive of FTD with coexistent late life depression, parkinsonism and vascular risk factors.
- Images were acquired in a dual head gammacamera 60 min. p.i. of ^{99m}Tc -ECD (925 MBq).
- 128 steps, 25 seconds each. 128×128 matrix. 2.9 mm pixel size. No scatter correction was performed.
- OSEM reconstruction (5 cycles 2 subsets). Prefiltering with Butterworth order 10, cut-off frequency 0.25. Attenuation correction 12 cm^{-1} . Transaxial slices parallel to AC-PC line.

Severe bilateral frontal hypoperfusion (white arrows) with interhemispheric fissure widening. Bilateral insula and anterior temporal cortex are also affected. Mild bilateral posterior parietal (white) and basal ganglia hypoperfusion. Preserved posterior cingulate and primary motor cortex (red).



Interpretation

- Images are consistent with FTD.

Discussion

- Typical pattern of FTD.
- Severe frontal involvement with spared motor cortex.
- Mild posterior parietal cortex is usually present in FTD but posterior cingulate is relatively unaffected.
- Anterior temporal cortex and basal ganglia usually have moderate hypoperfusion.
- LLD induce lower grade frontal changes.
- Lewy body disease (LBD) presents with posterior cortical involvement.

Conclusion

- Brain SPECT can help to confirm the diagnosis of FTD in a patient with other possible causes of cognitive impairment/dementia (late life depression, LBD).
- Prognostic and therapeutic implications.

Teaching points

- Diagnostic confirmation of FTD in the presence of other possible causes of dementia.

References

- Van Heertum RL, Tikofsky RS. Positron emission tomography and single-photon emission computed tomography brain imaging in the evaluation of dementia. *Semin Nucl Med.* 2003;33(1):77-85
- Claassen DO, Parisi JE, Giannini C, Boeve BF, Dickson DW, Josephs KA. Frontotemporal dementia mimicking dementia with Lewy bodies. *Cogn Behav Neurol.* 2008;21(3):157-63.