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Sporadic Alzheimer's disease with bipolar-like features: a case report and a brief review of the current research status

Key words: Alzheimer's disease; Frontotemporal dementia; Affective disorders; Diagnosis; Therapeutics; Case report

Notable Points

- This case report presented a 75-year-old woman with **gradual memory loss** and **changeable emotional and behavioral performance state**, who went through several examinations and therapeutic attempts before the diagnosis was decided as **Alzheimer's disease** and the disease approached stable state.
- The patient's clinical manifestations changed rapidly, especially the **emotional and behavioral symptoms**, which is rarely observed in the early state of Alzheimer's disease.
- According to the existing evidence, Alzheimer's disease has shared mechanisms with affective disorders, such as depression and bipolar disorder. The supporting evidence is located in **neuroimaging findings, neuroinflammation, neurodegeneration**, etc.
- It is also supposed that 1) The emotional abnormalities helps promote the **secondary prevention** of Alzheimer's disease; 2) **Therapeutics targeting cognitive functions** might be an emerging point of future pharmacological development.

Neuroimaging Results of the Case

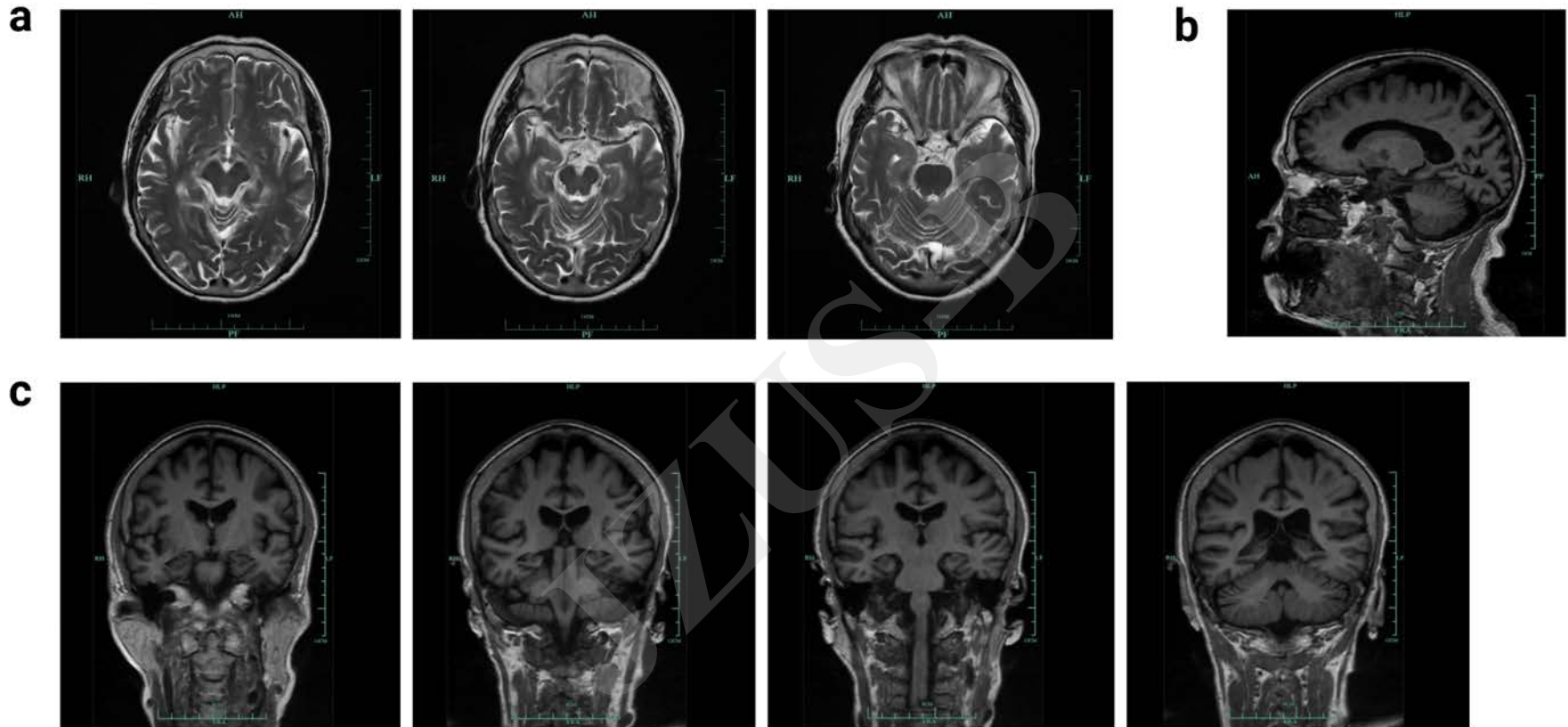


Fig. 1 Brain MRI results (mainly of the hippocampus levels). (a) T2 weighted images, cross-section; (b) T1 weighted image, vertical section; (c) T1 weighted images, cross-section.

Neuroimaging Results of the Case

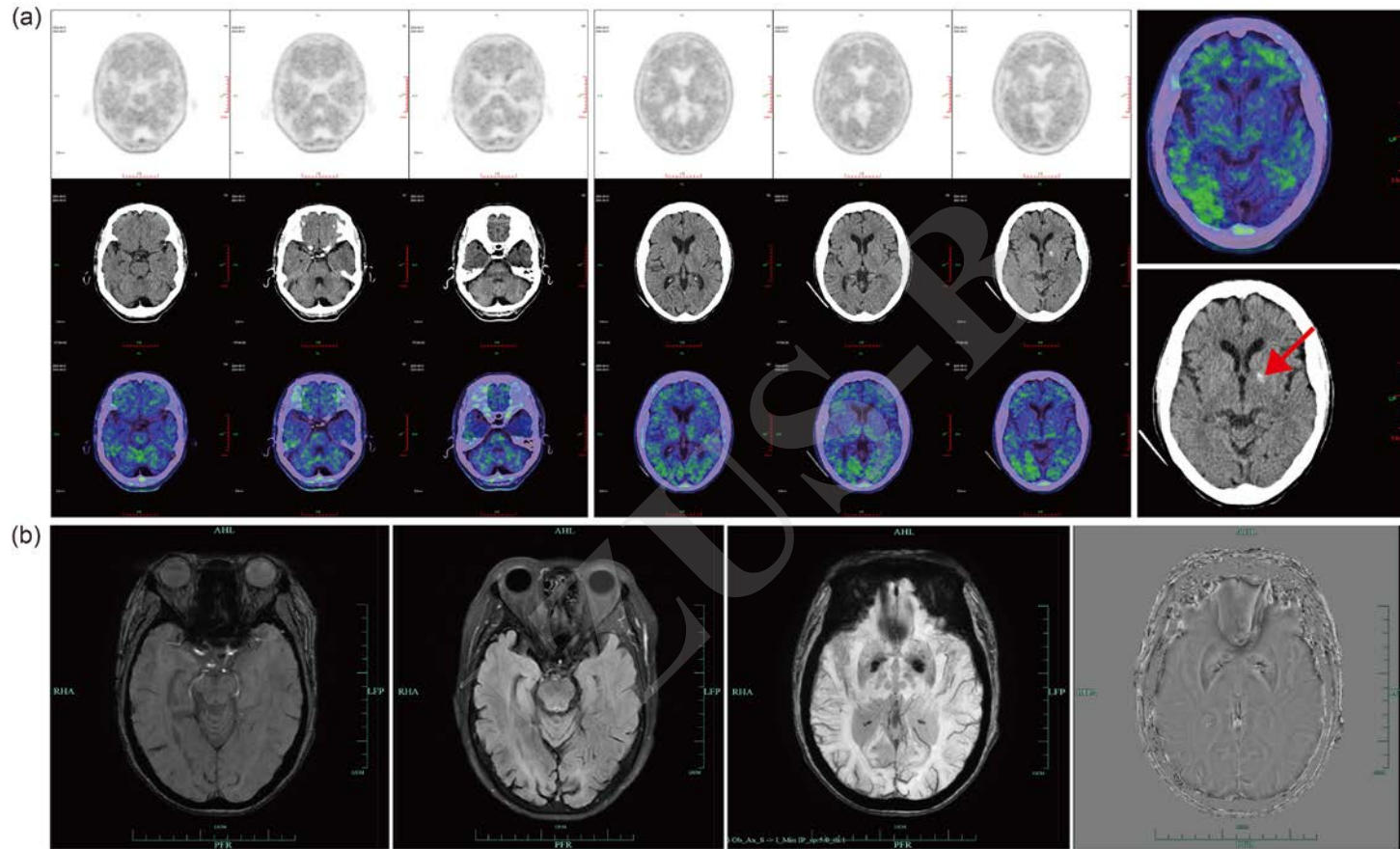


Fig. 2 Results of ^{18}F -AV45 PET-CT (a) and MR ESWAN with T2 FLAIR (1.5T) imaging (b) (mainly of the hippocampus levels). 1) The red arrow shows the microhemorrhagic focus in the right front temporal lobe. 2) The patient went through another session of MR ESWAN with T2 FLAIR (1.5T) imaging examination two months later (in total, three months after hospitalization), and the images and reports were mostly in accordance with the previous one. Plot b shows the first instance of MR ESWAN with T2 FLAIR (1.5T) imaging.