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The role of temporal lobe atrophy in pre-senile dementia

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Background & Aim: Dementia is a collection of signs and symptoms such as memory impairment, difficulties of communication and planning, changes in mood and behavior and the gradual loss of control of physical functions due to damage of the brain. It is greater prevalence in older subjects, but many cases can begin in an early age, affecting people in a productive phase of their lives. The aim of this study to investigate the association of the temporal lobe atrophy in causing early onset dementia in Sudanese patients.

Material & Method: Magnetic Resonance Imaging (MRI) method was used to detect atrophy of temporal structures in 32 patients diagnosed with dementia and Image-Pro Plus 6.0 to measures the volume. Age of patients range between 52 to 65 years and compared with 32 healthy control subjects of the same age.

Results: A total of 30 tow files of subjects diagnosed with presenile dementia were examined, 21 (65.6%) of them were males and 11 (34.4%) were females. the mean age of study subject was 60.15 years. A positive family history was reported in tow patients (6.3%). The imaging confirmed the expected temporal lobe atrophy in pre-senile dementia relative to controls, in 12 patients (38%), MRI show bilateral atrophy of the hippocampi. The volume of the hippocampus on the right side of the patients was range between 9.39-10.23 cm while on the left side of the patients the volume range 8.94-9 cm compare to the controls that recorded 13.55-15.36 cm and 12-15.20 cm on the right and left side respectively. Eight patients (25%) had atrophy on medial temporal lobe include amygdala, insula and orbitofrontal cortex and two (6%) patients being parietal temporal atrophy. In addition to that, MRI showing atrophy in the anterior part of left temporal lobe in the seven patients (22%). The volume of the left temporal lobe of the patients was 26.7-28 compare to the controls that range 39.83-40 cm. Other three (9.3%) showed bifrontal and the temporal lobes atrophy the volume of the frontotemporal lobes were 47.81-47.90 cm and 46.65-47 cm on the right and left side of the patients respectively compare to the control that measures 98.92-97.8 cm on the right and left side respectively.

Conclusion: We conducted that hippocampal, amygdala, temporal pole, fusiform and inferolateral temporal gyri atrophy are seen in patients with pre-senile dementia. These findings have a role for diagnosis and understanding of the pre-senile dementia.

Biography

Samia Othman Massaad is serving at an esteemed academic position in Department of Anatomy, Gadarif University.

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