conferenceseries.com

17th International Conference on

Clinical and Experimental Ophthalmology

October 01-03, 2018 | Moscow, Russia

The eye: A window to the brain also for Alzheimer's disease?

Pablo Luis
Miguel Servet University Hospital, Spain

Purpose: To determine the usefulness of different non-invasive methods using ocular coherence tomography (OCT) for the diagnosis and follow-up of Alzheimer's disease (AD).

Methods: Layer segmentation and linear discriminant functions were applied on a population of AD patients and age-matched controls. Patients with AD (n=150) and age-matched healthy controls (n=75) were analysed using the segmentation application prototype to automatically segment all retinal layers in a macular scan. Thicknesses of each layer were compared between patients with AD and controls and between patients with disease durations of less than or at least 3 years. Associations between retinal layer thicknesses, disease duration and AD severity were evaluated.

Results: Patients with AD had reduced thickness in the retinal nerve fibre, ganglion cell, inner plexiform and outer nuclear layers (p<0.05). The inner retinal layers were more affected in patients with long disease duration. Ganglion cell and retinal nerve fibre layer thicknesses were inversely correlated with AD duration and severity. Ganglion cell and inner plexiform layers thicknesses were predictive of axonal damage.

Conclusion: The segmentation application revealed ganglion cell and retinal layer atrophy in patients with AD compared with controls, especially in the inner layers of patients with long disease duration. Ganglion cell layer reduction was associated with increased axonal damage and may predict greater disease severity.

Notes:

Journal of Clinical & Experimental Ophthalmology
ISSN: 2155-9570

Ophthalmology 2018
October 01-03, 2018

Volume 9

Page 15