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Use of optical coherence tomography to assess retinal degeneration in patients with Parkinson’s disease

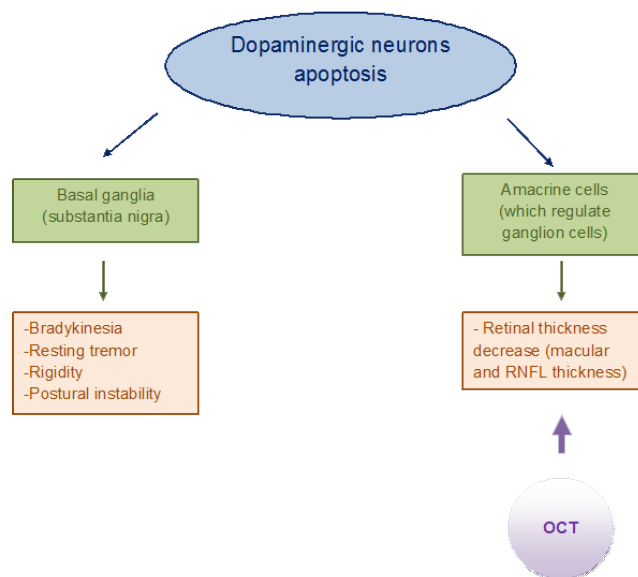
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Introduction & Aim: Parkinson’s Disease (PD) is a neurodegenerative process that causes a selective loss of dopaminergic neurons, affecting the basal ganglia and also the intra retinal dopaminergic circuitry. Optical Coherence Tomography (OCT) is a non-invasive imaging technique used in ophthalmology to evaluate the layers of the retina. The study aims to evaluate changes in the macular thickness and in the Retinal Nerve Fiber Layer (RNFL) after a 4 years follow up in patients with PD.

Method: 60 eyes from patients with PD and 60 eyes from healthy controls were evaluated with spectral-domain OCT. The evaluation was repeated on every subject four years later.

Result: Both patients with PD and healthy controls showed thinning in the evaluated parameters after four years. However, patients with PD showed greater decrease than healthy controls in some areas of the macular thickness and in some sectors of the RNFL. Moreover, disease progression measured with the Hoehn and Yahr scale showed correlation with the progressive RNFL thinning in some sectors.

Conclusion: Patients with PD show progressive macular thinning and axonal loss of the retina. OCT could be a biomarker of PD progression by measuring the RNFL thickness.



Biography

Javier Obis is an Ophthalmologist, has expertise in ophthalmological alterations related to Parkinson’s disease. He has published several articles in PubMed about retinal and choroid alterations measured with OCT in neurological diseases, especially in PD. He has researches on visual alterations related with PD and other neurological diseases. He is currently working on his doctoral thesis, which studies the retinal and choroid thickness alterations that appear in patients with PD and also the visual alterations that these patients suffer.

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