

عنوان مقاله:

Optical coherence tomography in multiple sclerosis

محل انتشار:

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نویسندگان:

Amin Najafi

Negin Ashoori

Katayoon Hosseini

Vahid Abbasi

خلاصه مقاله:

Abstract Background: Multiple sclerosis (MS) is a chronic neurodegenerative disease that damages myelinated fibers within the central nervous system. Data obtained using optical coherence tomography (OCT) have recently been identified as a potential biomarker for this disease. We aimed to measure circumpapillary retinal nerve fiber layer thickness (cpRNFLT) using OCT and to compare the results in healthy participants with those of individuals having clinically definitive MS with and without a history of optic neuritis. **Methods:** This cross-sectional study recruited patients with clinically confirmed MS, with and without optic neuritis, and healthy individuals as a control group. We documented demographic characteristics, duration of MS, and time elapsed since the episode of optic neuritis. All participants underwent a thorough ocular examination and measurement of total, superior, and inferior cpRNFLT using swept-source OCT. **Results:** In participants with MS, women outnumbered men in the subsets with (۹۰%) and without (۶۴%) optic neuritis. The control group comprised approximately similar numbers of men and women. There was a statistically significant difference in total, superior, and inferior cpRNFLT between study groups (all $P < 0.001$). Pairwise comparisons revealed significantly thinner total, superior, and inferior cpRNFLT in patients having MS with and without (all $P < 0.001$) optic neuritis when compared with the controls. We found significantly higher total, superior, and inferior cpRNFLT in women than in men (all $P < 0.05$). However, we found no significant correlation between total, superior, or inferior cpRNFLT and patient age, duration of MS, or time elapsed since the optic neuritis episode (all $P > 0.05$), except for a significant moderate inverse correlation between patient age and total cpRNFLT ($r = -0.41$; $P < 0.05$), indicating a loss of total cpRNFLT with age. **Conclusions:** Patients with clinically confirmed MS, with or without optic neuritis, had a significantly decreased cpRNFLT compared to that of healthy individuals. There was a significant inverse correlation between age and total cpRNFLT and a difference in cpRNFLT between the sexes, indicating that age and sex may influence the measurement of cpRNFLT using OCT in patients with MS. As a screening tool, OCT should be used along with other existing diagnostic modalities for patients with definite or suspected MS. Further longitudinal studies including various classifications of MS with or without isolated episodes of optic neuritis, along with diagnostic ... accuracy studies, could provide m

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