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Letter to the Editor

Is relying on RNFL specific enough to identify any changes in the CNS?

Dear Editor,

The latest article in your journal, authored by Wu et al. (2024),[1] highlights an intriguing finding: an increase in retinal nerve fiber layer (RNFL) thickness among pregnant women compared to their non-pregnant counterparts. This observed thickening of the RNFL in pregnant women might be attributed to pregnancy-related vasodilatation. Moreover, it also raises the possibility of a subclinical involvement of the central nervous system (CNS) in their condition, particularly for women with preeclampsia. Our intention is to highlight the wider implications of RNFL thickness alterations, extending beyond pregnancy to encompass various diseases, and to question whether such changes are specific in detecting neural disorders. While investigating the fluctuations in RNFL thickness across diverse conditions indeed holds the potential to yield valuable insights into its diagnostic sensitivity, it appears that the reduction of RNFL thickness is consistent across different studies involving CNS defects (see Table 1). This raises an intriguing question: Is relying on RNFL specific enough to identify any changes in the CNS?''. Additionally, it is crucial to determine whether all subclinical involvement of the CNS results in the thickening of RNFL, or if it is solely attributed to pregnancy?

While the eye is commonly described as the "window to the brain" given that the retina is an integral part of the CNS and shares several structural and functional similarities with the brain, the question persists: Is the detection of RNFL sufficient to reflect or screen for neurological changes in individuals without prior symptoms of neurological disorders?

Table 1
RNFL thickness changes in several neurodegenerative disorders.

Disease	RNFL Thickness (mean, SD)		References
	Control group	Case group	
Parkinson Disease	94.33 ± 11.0 μm	89.36 ± 9.0 μm	Ng et al., 2023[2]
	104.56 ± 8.2 μm	97.66 ± 10.4 μm	Elanwar et al., 2023[2]
Alzheimer Disease	108.04 ± 10.3 μm	104,58 ± 9.3 μm	Bayram et al., 2021[3]
	91.5 ± 7.4 μm	80.7 ± 14.9 μm	Kim & Kang, 2019[4]
Huntington's Disease	101 ± 8.8 μm	96.7 ± 7.7 μm	Dusek et al., 2023[5]
Multiple Sclerosis	99.2 ± 7.5 μm	93.6 ± 9.9 μm	Sriram et al., 2014[6]
Amyotropic Lateral Sclerosis	119.4 ± 1.1 μm	112.3 ± 6.7 μm	Mohanty et al., 2023[7]
Friedreich's Ataxia	103.9 ± 8.4 μm	88.4 ± 12.9 μm	Bogdanova-Mihaylova et al., 2021[8]

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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