BACKGROUND/AIM: To evaluate the retinal nerve fiber layer (RNFL) thickness in patients with Alzheimer disease (AD) and to compare the results with those of healthy controls.

MATERIALS AND METHODS: Forty patients (mean age: 75.02 ± 6.34 years; 23 women) with untreated AD and 40 age-, sex-, and education-matched healthy patients were examined in this case-control prospective study. All patients underwent detailed ophthalmic and neurological examination. The Mini Mental State Examination (MMSE) was performed and RNFL thickness was measured using spectral-domain optical coherence tomography. The association between RNFL and MMSE score was also assessed.

RESULTS: The average RNFL thickness was 84 ± 7.0 µm in AD patients and 107 ± 6.3 µm in healthy subjects (P < 0.001). The mean MMSE score was 21.9 ± 2.13 in AD patients. There was no significant correlation between the RNFL thickness and MMSE score.

CONCLUSION: Patients with AD had reduced RNFL thickness in all quadrants compared with the control group. This finding suggests that RNFL thickness analysis may be useful in the early diagnosis of AD.