(S110) OPTICAL COHERENCE TOMOGRAPHY REVEALS DIFFERING SEVERITY OF DAMAGE BETWEEN WHITES AND AFRICAN AMERICANS WITH DEMYELINATING DISORDERS

Neurology, University of Chicago, Chicago, IL

Background: Optical coherence tomography (OCT) is a useful tool for analyzing retinal nerve fiber layer (RNFL) and macular thickness (MT). To date, racial differences in OCT findings of multiple sclerosis (MS) and neuromyelitis optica (NMO) have not been reported. Objectives: To correlate clinical characteristics of MS and NMO patients with OCT findings. Methods: Heidelberg OCT was performed in patients with relapsing-remitting MS (n = 15, 8 white and 7 African American), patients with NMO (n = 6, 3 white and 3 African American), and controls (n = 34). Results: RNFL and MT in MS and NMO patients were reduced compared with controls. No effect of age, sex, treatment, or disease duration on RNFL or MT was noted. No difference was noted (P = .22) in RNFL thickness between MS optic neuritis (ON) and non–optic neuritis (NON) eyes. MT was reduced in ON eyes (303 μm vs. 320 μm, P = .04). NMO ON eyes (n = 8) had reduced RNFL (461 μm vs. 780 μm, P = .007) and MT (285 μm vs. 306 μm, P = .05) compared with NON eyes (n = 4). African American NMO ON eyes (n = 2) had thinner RNFL (376 μm vs. 489 μm, P = .05) and reduced MT (273.1 μm vs. 298 μm, P = .005) compared with white NMO ON eyes (n = 6), but no racial difference was seen in MS ON eyes. No significant difference was noted in RNFL (580 μm vs. 460 μm) or MT (302 μm vs. 285 μm) between MS and NMO ON eyes. MS NON eyes had reduced MT compared with NMO (320 μm vs. 306 μm, P = .02) and trending toward thinner RNFL (640 μm vs. 780 μm, P = .09). Conclusions: RNFL and MT of NMO ON eyes are thinner than in NON eyes, but only macular thinning was noted in MS patients. This may reflect subclinical disease activity affecting MS NON eyes. MS NON eyes demonstrate reduced MT compared with NMO, which may help differentiate MS from NMO patients without ON. African American NMO patients with ON have reduced RNFL and MT compared with whites, suggesting more ON damage.

Supported by: National Multiple Sclerosis Society

Disclosure: Nothing to disclose

Keywords: imaging and MS, disease-modifying treatment in MS, equipment in MS