Ocular pulse amplitude measured by Pascal dynamic contour tonometry in multiple sclerosis patients
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Purpose: Ocular pulse amplitude (OPA) recorded by Pascal dynamic contour tonometry (DCT) represents a difference between systolic and diastolic IOP and it is thought to indirectly reflect choroidal perfusion. Disturbed perfusion in peripapillary choroid is considered one of causative factors for development of glaucomatous optic neuropathy (GON). Multiple sclerosis (MS) patients often present symptoms of vascular dysregulation which can lead to diminished ocular blood flow. The aim of the study was to evaluate OPA in patients suffering from multiple sclerosis.

Patients and methods: A total of 39 MS patients were recruited for the study and in 34 of them (68 eyes) DCT measurements were performed a.m. All patients underwent stereoscopic optic nerve head examination, HRT, and OCT evaluation of retinal nerve fiber layer to detect structural features of GON.

Results: Among 39 patients recruited for the study 4 demonstrated structural features of GON in at least one eye. Mean OPA in 30 MS patients without GON (60 eyes) was 2.37 whereas mean OPA in 4 MS patients with GON (8 eyes) was 1.76. None of the patients showed increased IOP (above 21 mmHg).

Conclusion: OPA is diminished in MS patients demonstrating features of GON as compared with MS patients without GON, similarly to primary open angle glaucoma patients, especially those with normal IOP. This result may suggest a common pathway of disturbed choroidal perfusion in developing glaucomatous damage.