

Visual Field Deficits in Patients with Headache Disorders: A 2-year Prospective Cohort Study

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Background: Primary and secondary headache disorders are often associated with visual symptoms. These patients are frequently encountered in ophthalmology clinics and exam abnormalities are occasionally identified.

Purpose: This study aimed to characterize the nature of visual field deficits in patients with visual symptoms presenting to the neuro-ophthalmology clinic eventually attributed to a headache disorder.

Methods: We performed a single-center prospective evaluation of visual complaints in the setting of a headache disorder at the Kentucky Eye Clinic between June 2012 and May 2014. Subjective visual complaints included blurry vision, visual distortions, double vision, transient visual loss and visual field losses. All underwent a detailed, standardized neuro-ophthalmology exam including visual acuity, color vision, contrast sensitivity, visual fields, examination of the pupil, anterior segment and dilated posterior segment exam and intraocular pressure. A Humphrey field analyzer 24-2 SITA fast was used to assess visual fields.

Results: We identified a cohort of 56 individuals, 76.8% female with a median age of 46 (range: 11-76) Visual complaints prompting consultation included visual distortions (46.4%) blurry

vision (17.9%), diplopia (16.1%), visual field loss (8.9%), transient visual loss (7.1%), eye pain (5.4%) and tunnel vision (1.8%). These were attributed to a headache disorder after a thorough neuro-ophthalmology exam that was normal with no afferent pupillary defect. Per ICHD-II criteria, their pre-existing headache disorder included: Migraine with aura (n=20), migraine without aura (n=11), chronic migraines (n=13), retinal migraines (n=1), occipital neuralgia (n=1). Some of the patients had no pre-existing headache disorder prior to initial consult (n=10). Clinical diagnoses for presenting symptoms based on neuro-ophthalmologic evaluation included typical aura without headache (40%), migraine with aura (21%), chronic migraine (8.8%), migraine without aura (3.5%) and retinal migraine (1.8%). Visual fields were normal in 28 patients (49.1%), unreliable in 7 (12.2%), had clover leaf pattern in 3 (5.3%-bilaterally), and had nerve fiber bundle pattern defects in 19 (33.3%-8 were bilateral).

Conclusions: In our prospective cohort of patients with visual symptoms attributable to a headache disorder, visual field abnormalities were not uncommon, and most often monocular. The pathophysiologic significance of these findings is uncertain.