Visual function following treatment of optic neuritis

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Abstract

Purpose: To evaluate changes in different aspects of visual function including visual acuity, visual field, contrast sensitivity, colour vision and stereopsis in patients with optic neuritis before and after medical intervention. Methods: In a noncomparative interventional case series on 31 eyes of 30 patients with optic neuritis, the following aspects of visual function were compared before and after treatment. Medical intervention was conducted following the Optic Neuritis Treatment Trial (ONTT) guidelines. Visual function was assessed by evaluating changes in visual acuity, visual field (Goldmann in affected and normal eyes), contrast sensitivity using Cambridge low contrast grating, colour vision using Ishihara plates and stereopsis using Titmus stereocuity test. Results: Visual acuity was significantly lower (30/10) in the affected eyes than unaffected eyes (8/10) [P<0.001]. Contrast sensitivity was also significantly better in the affected eyes. Mean stereocuity was 310 sec/arc. The visual field impairment was also significantly higher than that of the unaffected eye and also normal population sample. Weak deutan defects were present in 60% of the patients. After medical treatment, visual acuity, visual field defects, contrast sensitivity, colour and stereopsis were significantly improved. Conclusion: Different aspects of visual function including visual acuity, visual field, contrast sensitivity, colour vision, and stereopsis are impaired in optic neuritis. Medical treatment with intravenous methylprednisolone followed by oral steroids is effective in improving these parameters. However, some deficits may persist after therapy. Since spontaneous recovery after optic neuritis is common, clinical trials are needed to determine the true effect of treatment versus follow-up.

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