

Corticosteroid added to standard treatment improves eyesight in patients with sudden vision loss

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Nonarteritic anterior ischemic optic neuropathy (NAION) is one of the leading causes of sudden and irreversible loss of vision in older adults. In a prospective randomized trial of 60 patients with NAION, investigators have shown that the addition of the corticosteroid fluocortolone (FC) to standard therapy significantly improves both short- and long-term visual acuity, especially when given soon after the onset of symptoms. Their results are published in *Restorative Neurology and Neuroscience*.

NAION, a disabling condition which can affect both eyes in up to 19% of cases within 5 years, occurs in about 2.3 per 100,000 adults over the age of 50. Incidence increases steadily with age. Patients have few well-tested or effective treatment options beyond the standard administration of pentoxifylline (PTX), which is thought to improve visual acuity by improving the microcirculation in oxygen-deprived optic nerve tissue. No current treatment reverses or limits the course of the disease. The goal of the current study was to see whether adding a steroid to PTX could improve vision, perhaps by reducing edema or inflammation.

Researchers from the Institute of Experimental Ophthalmology, University of Münster, Germany, studied 55 [patients](#) diagnosed with NAION who had developed sudden loss of visual acuity less than 3 days before the initial consultation. These patients were treated with PFX as well as adjunctive therapy with FC during the first 2-3 months (which was gradually tapered). The control group received only PFX.

Investigators found that PFX alone had no significant beneficial effects on either visual acuity (as measured as Best Corrected Visual Acuity, BCVA) or visual field after 3 days and 6 months of treatment. However, adding FC significantly boosted outcomes: those receiving FC were more likely to experience improvement and less likely to have worsened visual acuity. Progress was even more pronounced after 6 months of therapy. More than two thirds of NAION patients treated with the combination therapy had better long-term [vision](#) compared to only 14% of those only treated with PFX.

The authors explain why FC apparently benefits those who have less severe visual loss. "NAION is caused by ischemia of the optic nerve head.... This restriction of blood supply, depending upon its degree, results in primary irreversible loss of retinal ganglion cells (RGC) and secondary delayed RGC loss related to subsequent optic-disc edema," says Verena Prokosch, PhD, Dr. med., Institute of Experimental Ophthalmology.

"Corticosteroids do not appear to reduce primary cell death, explaining the lack of benefit of FC therapy in patients with a BCVA score worse than 0.05. This may not be the case for patients with moderate BCVA loss who suffer secondary RGC loss due to optic-nerve swelling, revealing a possible therapeutic window for FC," explains co-author Solon Thanos, MD, Prof. Dr. med. Dr. rer.nat., Institute of Experimental Ophthalmology. Prof. Dr. Thanos suggests that the pronounced long-term effect of FC on visual acuity found in the study could be attributed to early and prolonged treatment at a dose higher than previously tested.

More information: "Visual outcome of patients following NAION after treatment with adjunctive fluocortolone," by Verena Prokosch, Solon Thanos. *Restorative Neurology and Neuroscience*, 2013. [DOI: 10.3233/RNN-120292](#)

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