Case Report

Clear Lens Extraction for Visual Rehabilitation in a Functionally One-Eyed Patient with Congenital Nystagmus and High Myopia

Ritu Chaudhary, Gurkiran Kaur*

Department of Ophthalmology, Nehchal Eye Centre, Noida, Uttar Pradesh, India

Abstract

A young adult male with congenital nystagmus and high myopia presented with long-standing visual impairment. The right eye was functionally blind with hand movements, vision, large-angle exotropia, and congenital nystagmus. The left eye was the only seeing eye, with best-corrected visual acuity of 6/60 despite optimal spectacle correction. Ocular examination revealed a clear crystalline lens, myopic retinal changes, and no evidence of myopic choroidal neovascular membrane or treatable peripheral retinal pathology. After extensive counselling regarding the risks and guarded prognosis of surgery in the only seeing eye, clear lens extraction with posterior chamber intraocular lens implantation was performed. Postoperatively, best-corrected visual acuity improved to 6/9 (partial) with marked improvement in functional vision, while nystagmus persisted. This case highlights the role of clear lens extraction as a refractive option in carefully selected, functionally one-eyed patients with congenital nystagmus and high myopia.

Keywords: Congenital nystagmus, High myopia, Clear lens extraction, Refractive lens exchange, Functional monocular vision.

Introduction

Congenital nystagmus is characterized by involuntary rhythmic ocular oscillations presenting early in life and resulting in reduced visual acuity due to continuous retinal image motion. It is frequently associated with high refractive errors, particularly high myopia, further compromising visual performance. Optical correction in such patients is often limited by image minification, optical aberrations, reduced foveation periods, and poor tolerance to high-powered spectacles. Clear lens extraction (CLE) has been employed in selected patients with high ametropia when corneal refractive procedures are unsuitable; however, its role in congenital nystagmus remains controversial.[1,2]

Case Report

A young adult male presented with complaints of progressive visual blurring since childhood. He had a known history of congenital nystagmus and high myopia in both eyes. There was no history of ocular trauma, prior ocular surgery, or systemic illness.

Preoperative Examination

Right eye (OD): Unaided visual acuity was hand movements with no improvement on refraction. A large-angle exotropia of approximately 60 degrees was present along with congenital nystagmus. Extraocular movements were full and free. Central corneal thickness was 510 µm, and the eye was considered functionally non-seeing. Fundus examination showed myopic retinal changes with a pale optic disc, without evidence of myopic choroidal neovascular membrane, lattice degeneration, retinal breaks, or peripheral retinal lesions requiring treatment.

Left eye (OS – only seeing eye): Unaided visual acuity was 3/60 with a refraction of −6.00 DS, improving best-corrected visual acuity to 6/60. Anterior segment examination revealed a clear cornea, deep anterior chamber, and clear crystalline lens. Central corneal thickness was 512 µm, and intraocular pressure was within normal limits. Fundus examination showed myopic retinal changes with a normal optic disc,

Address for correspondence: Gurkiran Kaur
Department of Ophthalmology, Nehchal Eye Centre, Noida, Uttar Pradesh, India
E-mail: gk@nehchaleye.com

How to cite this article: Chaudhary R, Kaur G. Clear Lens Extraction for Visual Rehabilitation in a Functionally One-Eyed Patient with Congenital Nystagmus and High Myopia. UP Journal of Ophthalmology. 2026;14(1): 31-32.

Received: 08-02-2026, **Accepted:** 08-03-2026, **Published:** 02-04-2026

UP JOURNAL OF OPHTHALMOLOGY
An Official Journal of Uttar Pradesh State Ophthalmological Society, UPSOS (Northern Ophthalmological Society, NOS)

p-ISSN: 2319-2062 | DOI: 10.56692/upjo.2026140105

Figure 1: Preoperative clinical photograph showing large-angle exotropia in the right eye

without evidence of myopic choroidal neovascular membrane, lattice degeneration, retinal breaks, or peripheral retinal lesions requiring treatment. Congenital horizontal nystagmus was present, and extraocular movements were full and free. Diagnosis: Congenital nystagmus with high myopia in a functionally one-eyed patient, causing suboptimal visual function.

Preoperative frontal clinical photograph demonstrating a large-angle exotropia of the right eye (Figure 1), which was functionally non-seeing. The left eye was the only seeing eye and showed continuous involuntary ocular oscillations consistent with congenital nystagmus.

Management

Given the poor functional vision with optimal spectacle correction and intolerance to high refractive error, surgical intervention was considered for the left eye. The patient was extensively counselled regarding the risks of surgery in the only seeing eye, the guarded visual prognosis, and the persistence of nystagmus. After thorough preoperative retinal evaluation and informed consent, clear lens extraction with posterior chamber intraocular lens implantation was performed. A foldable intraocular lens was implanted in the capsular bag, targeting near emmetropia.

Postoperative Outcome

Postoperatively, best-corrected visual acuity improved to 6/9 (partial). Nystagmus persisted. The anterior segment was quiet with a well-centered posterior chamber intraocular lens. Fundus examination remained stable with no postoperative retinal complications. The patient reported marked improvement in functional vision and daily visual activities.

Discussion

Visual rehabilitation in congenital nystagmus is challenging due to reduced foveation duration and continuous retinal image motion. High myopia further degrades image quality through optical aberrations and image minification with spectacle correction, particularly in functionally monocular patients. Although refractive interventions do not reduce nystagmus amplitude or frequency, improved retinal image clarity can result in meaningful functional visual improvement. Clear lens extraction, while not influencing the underlying nystagmus, can significantly enhance optical quality in carefully selected high myopes. Careful patient selection and meticulous retinal evaluation are essential.[3,4]

Conclusion

Clear lens extraction with posterior chamber intraocular lens implantation can provide significant functional visual improvement in carefully selected, functionally one-eyed patients with congenital nystagmus and high myopia. Thorough counselling and realistic expectation-setting remain critical.

References

1. Abel LA, Dell'Osso LF. Congenital nystagmus: classification, diagnosis, and treatment. Curr Opin Ophthalmol. 2000;11(6):430-6.
2. Dell'Osso LF. A dual-mechanism model for congenital nystagmus. Vision Res. 1998;38(23):3737-48.
3. Gimbel HV, Basti S, Kaye GB, Ferensowicz M. Clear lens extraction for the correction of high myopia. Ophthalmology. 1994;101(4):694-701.
4. Seyeddain O, Hohensinn M, Riha W, Nix G, Dexl AK, Grabner G. Refractive lens exchange in high myopia: long-term follow-up. J Cataract Refract Surg. 2012;38(11):1993-2000.