

Visual Outcomes and Patient Satisfaction With a New Enhanced Monofocal Intraocular Lens in Glaucoma Patients

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Background

- The European Society of Cataract & Refractive Surgeons (ESCRS) Functional Vision Working Group have emphasized that intermediate vision plays a crucial role in modern life⁽¹⁾.
- Enhanced monofocal intraocular lenses (IOLs), such as the Tecnis Eyehance, were designed to provide improved intermediate and functional near vision while maintaining distance visual performance.
- This is achieved by a modified central optics to extend depth of focus with a softer landing zone relative to traditional monofocal IOLs.
- Glaucoma is known to be associated with visual impairment, reduced contrast sensitivity and visual field loss. These factors may influence postoperative performance of conventional premium diffractive IOLs.
- Real-world outcomes of Eyehance IOLs in the general cataract population have shown improved intermediate and near visual acuity, but evidence in glaucoma patients is scarce⁽²⁾. This prospective real-world study evaluates early visual outcomes and patient satisfaction following Eyehance IOL implantation in a glaucoma cohort.

Aim

To evaluate early **visual outcomes** and **patient satisfaction** following **Tecnis Eyehance IOL** implantation in **glaucoma patients** undergoing cataract surgery

Methods

Sample

- 30 eyes** of 27 patients
- Patients with glaucoma of all types and severity who underwent cataract surgery between September 2025 and February 2026

Pre-Operative measurements (Measured on day of surgery)

- Best corrected Distance visual acuity (DVA) – LogMAR
- Best corrected Intermediate visual acuity (IVA) – Near Chart at 80cm
- Near Visual acuity (NVA)– Near chart at 40cm
- Patient satisfaction – Catquest-9SF Questionnaire

Intervention

- Cataract surgery with the **Tecnis Eyehance IOL** (Johnson & Johnson)

Post-Operative Measurements (4-6 weeks post-operatively)

- Unaided DVA, IVA, NVA
- Patient satisfaction - Catquest-9SF Questionnaire

Results

- ❖ 27 patients (14 female, 13 male), mean age 79
- ❖ Most eyes had primary open angle glaucoma (figure 1A)
- ❖ Most cases were uncomplicated; 2 cases had intraoperative complications (hyphema, zonular dialysis)
- ❖ The average spherical Equivalent (SEQ) was **-0.52** (± 3.61) pre-operatively and **-0.46** ± 0.5 post-operatively
- ❖ Visual acuity improved at all distances post-operatively (post-op) compared with pre-operative (pre-op) VA (Table 1, fig.1)
- ❖ For DVA, 80% of eyes achieved LogMAR 0.2 unaided or above post-op
- ❖ 53% (IVA) and 60% (NVA) of patients achieved N12 or better unaided
- ❖ Patient satisfaction increased from 42% pre-op to 90% post-op
- ❖ Improved ease with routine tasks, particularly reading, following subtitles, and shopping were also reported

Measure	Pre-operative mean	Post-operative mean	Mean change	p-value
DVA (LogMAR)	0.46 ± 0.58	0.20 ± 0.42	- 0.26	P<0.001
IVA (N-notation)	N24	N10	+2.5 N-lines	P<0.001
NVA (N-notation)	N24	N10	+2.3 N-lines	P<0.001

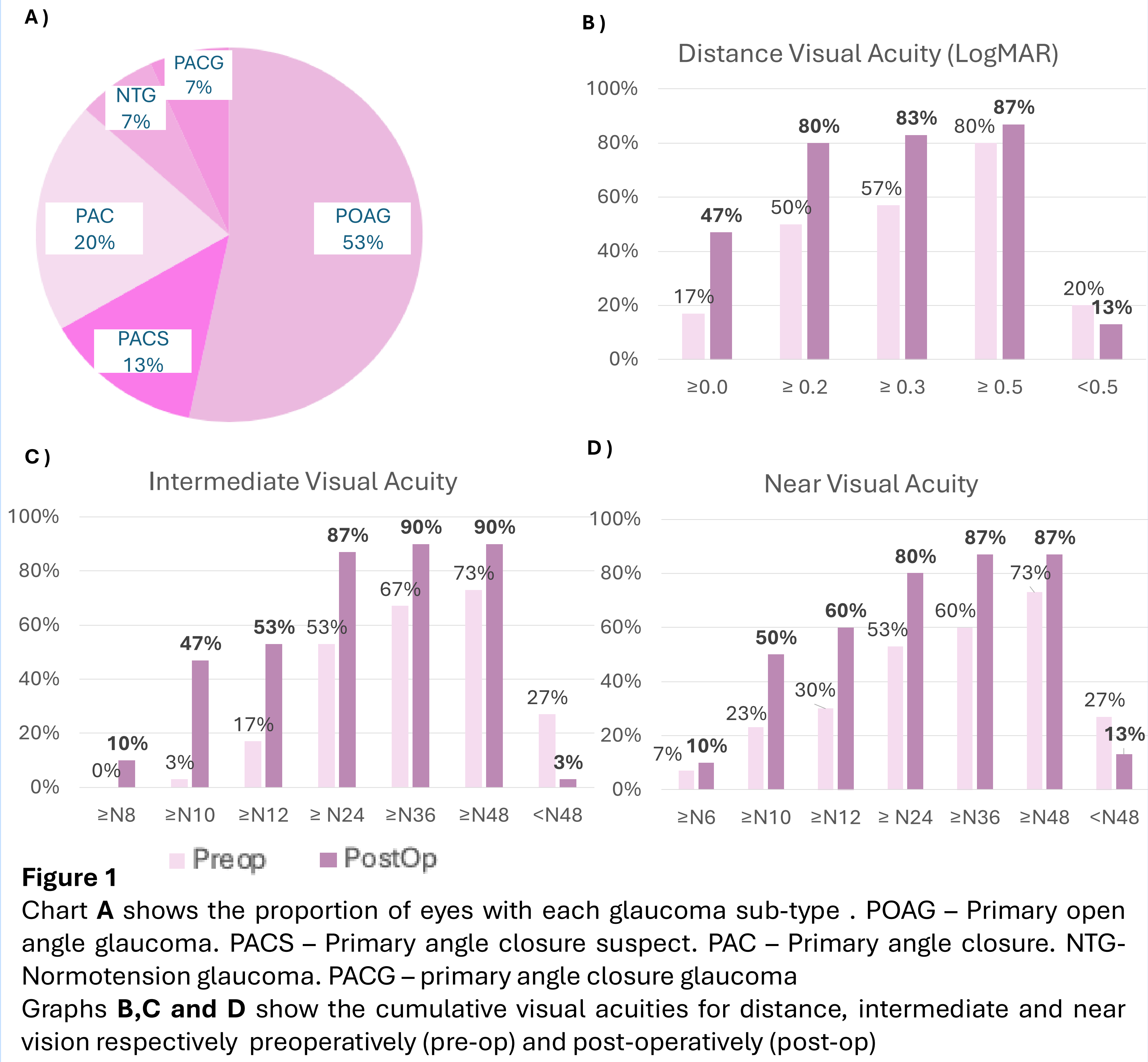
Table 1: Average pre-operative best corrected visual acuities for distance (DVA) and Intermediate (IVA) vision compared with post-operative unaided visual acuities. Average unaided preoperative near visual acuity (NVA) compared with post-operative.

Discussion

- ❖ This study demonstrates that the Eyehance IOL provides meaningful functional improvement for distance, intermediate and near vision in glaucoma patients, with favourable patient-reported functional outcomes.
- ❖ Importantly, improvements in intermediate vision and near vision appear to reaffirm enhanced ability to perform everyday tasks without compromising the quality of vision in a glaucoma population.

Limitations

- ❖ This study is limited by its small sample size and short follow up period.
- ❖ There are no comparisons with standard monofocal IOLs
- ❖ There is also heterogeneity of glaucoma type and severity



Key Takeaway

- ❖The Tecnis Eyehance monofocal IOL demonstrates improvement in Functional vision in Glaucoma patients in this cohort