

Phakic Posterior Chamber Intraocular Lens for Refractive Correction



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No financial interests are involved.

Phakic Posterior Chamber IOL - ICL



Phakic IOL has been **increasingly performed** to correct ametropia.

High predictability, optical quality of the eye, different complications related to ablation procedures.

Visian IOL – STAAR® – ICL: designed to be placed in **PC with the haptic zone resting on the ciliary sulcus and an anterior vault to avoid lens contact.**

Access **predictability, efficacy, safety and stability** in patients who received a implantable collamer lens (ICL) V4C model to correct moderate to high myopia and astigmatism.

No financial interests are involved.

Material and Methods

- **Study Type**

- Retrospective Study since June 2012 until July 2013
- Patients submitted to ICL V4C implantation for myopia and astigmatism correction.

- **Inclusion Criteria**

- Age: 20 and 45 years old
- Clear lens
- ACD > 2.8mm
- **Myopia >2.0D and/or astigmatism >1.5D**
- Stable refraction

- **Main Outcome Measures**

- Follow-up ≥ 12 months
- UCVA and BCVA
- Subjective refraction
- Vault and ECC evaluation

- **IOL Power and Diameter**

- Subjective refraction
- ACD
- Keratometric measurement: topography Pentacam[®] HR, Oculus
- Horizontal angle-angle distance: OCT Visante Omni[®], Carl Zeiss

Demographic Results



Sample

- 57 eyes and 36 patients
- Included:
 - 34 patients
 - 54 eyes
- RE: 51,9% (26 eyes)
- LE: 46,3% (24 eyes)

Other Refractive Conditions - 16 eyes (29,6%)

- **Ambliopia:** 1 (1,9%)
- **Anisometropia:** 2 (3,7%)
- **Intracorneal Ring Segments:** 6 (11,3%)
- **Keratoconus:** 1 (1,9%)
- **Piggy-back:** 2 (37,3%)
- **Post-lasik:** 3 (56,6%)
- **Post-PK:** 1 (1,9%)

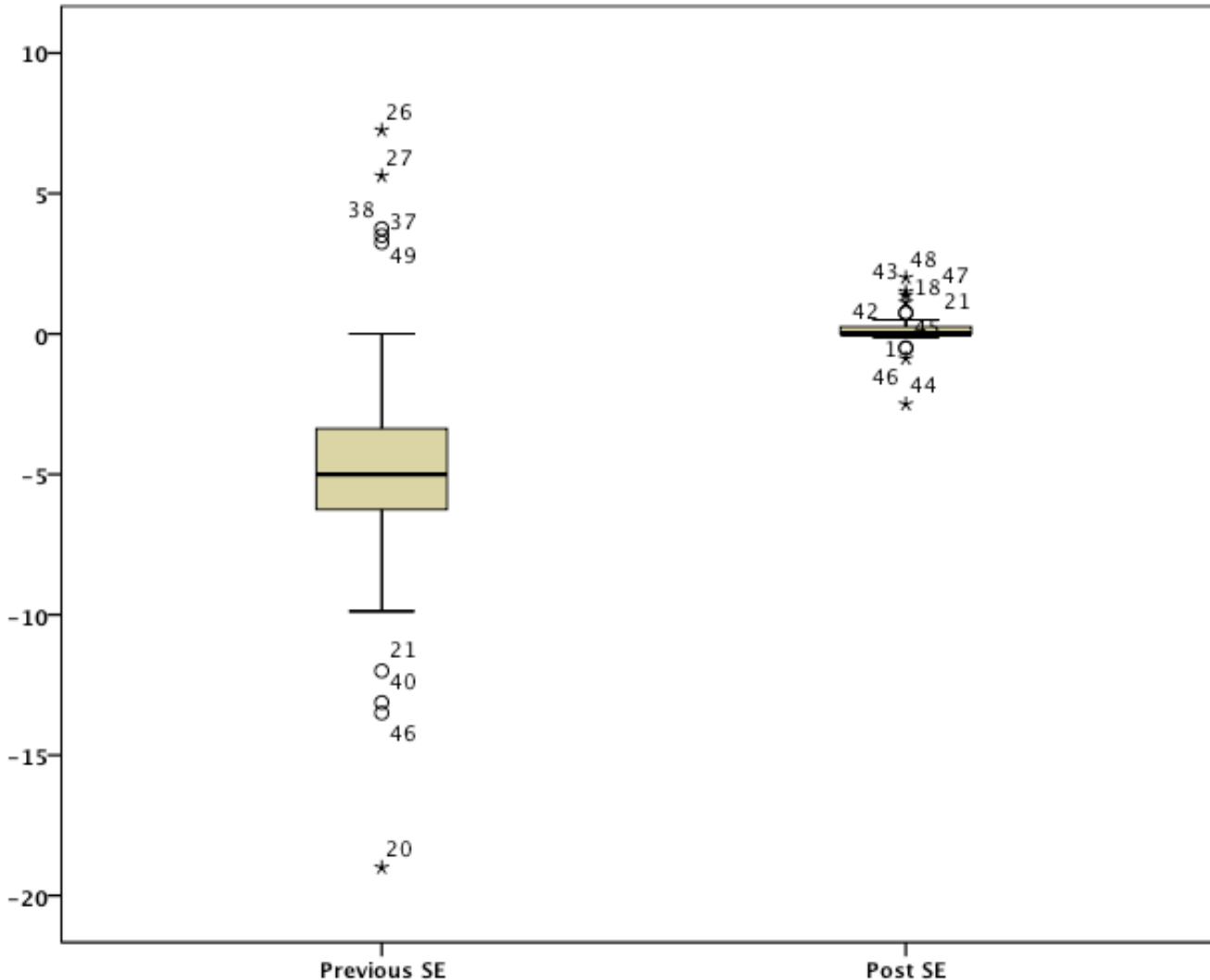
ICL size

- **12,60:** 8 eyes (14,8%)
- **13,20:** 28 eyes (51,9%)
- **13,70:** 11 (20,4%)

Average Measurements

- ACD = $3,31 \pm 0,26$ mm
- Vertical ATA = $12,1 \pm 0,37$ mm
- Horizontal ATA = $12,21 \pm 0,39$ mm
- WTW = $12,42 \pm 0,39$ mm

Refractive Results – Spherical Equivalent

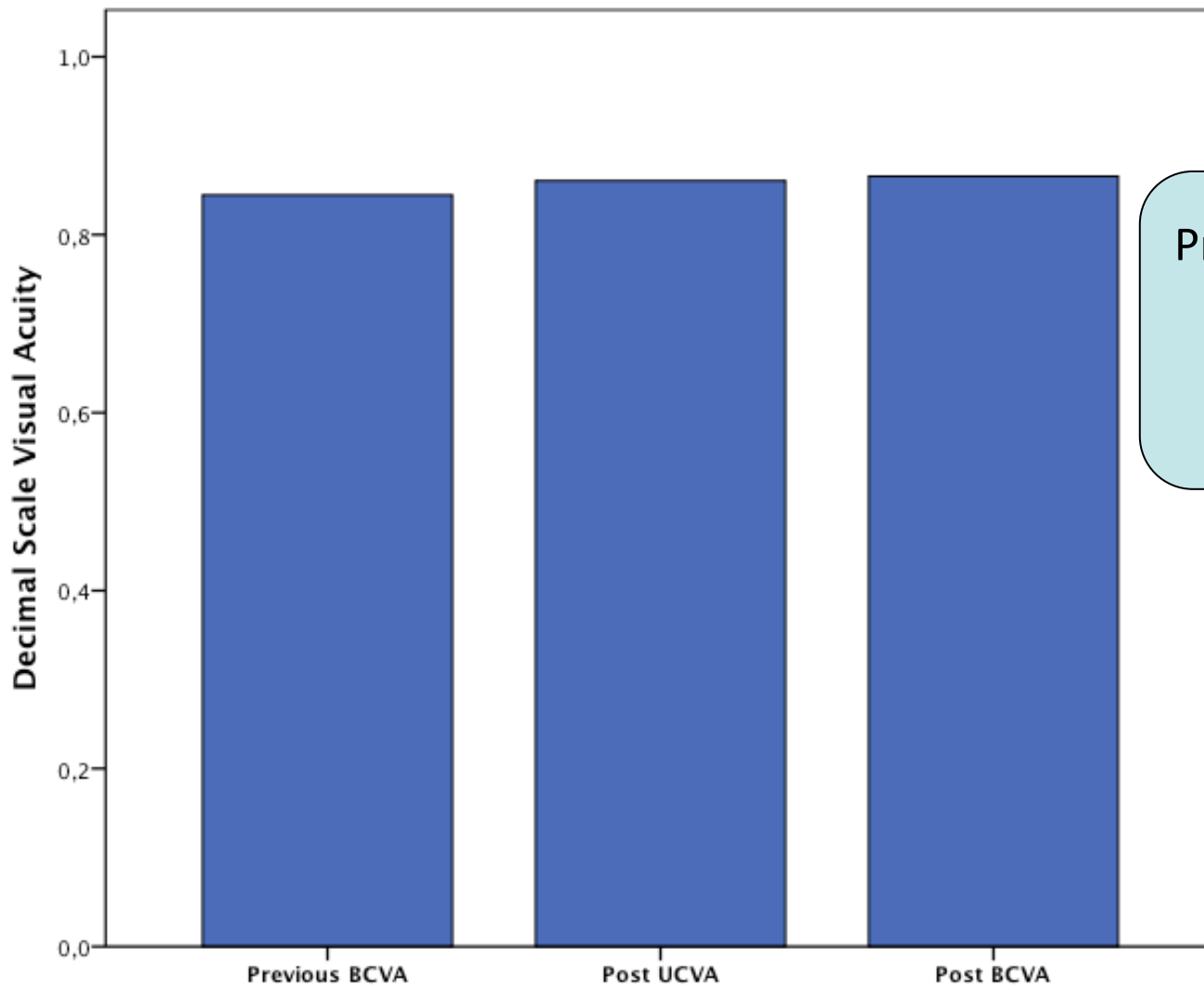


Previous SE: $-4,84 \pm 4,64$ D

Post SE: $0,12 \pm 0,60$ D

Pearson correlation: $p = 0.027$

Refractive Results – Visual Acuity: All patients



Previous BCVA: 0,80 ± 0,25

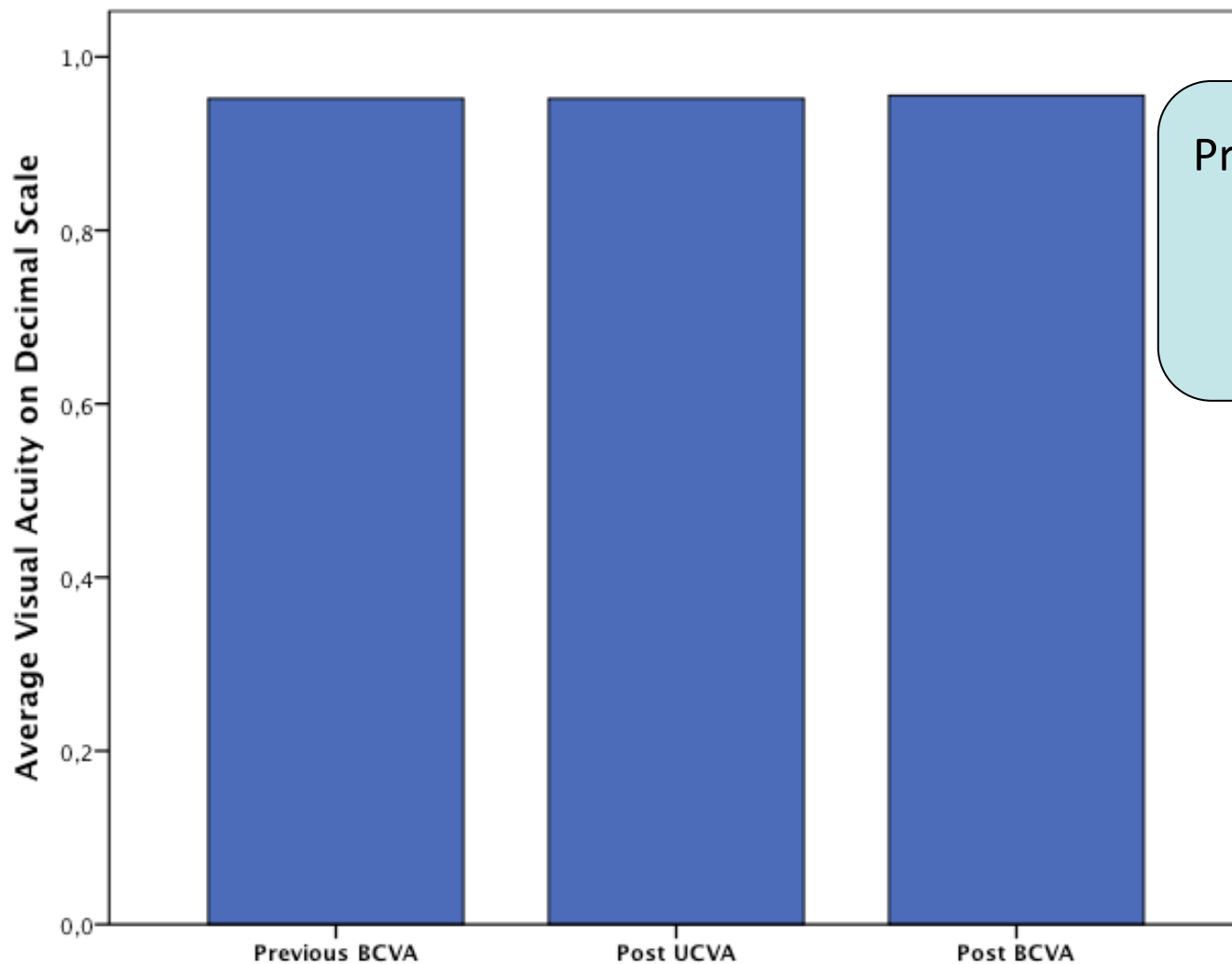
Post UCVA: 0,81 ± 0,24

Post BCVA: 0,84 ± 0,20

Efficacy Index: 1,01

Security Index: 1,05

Refractive Results – Visual Acuity: Excluding Refractive Conditions



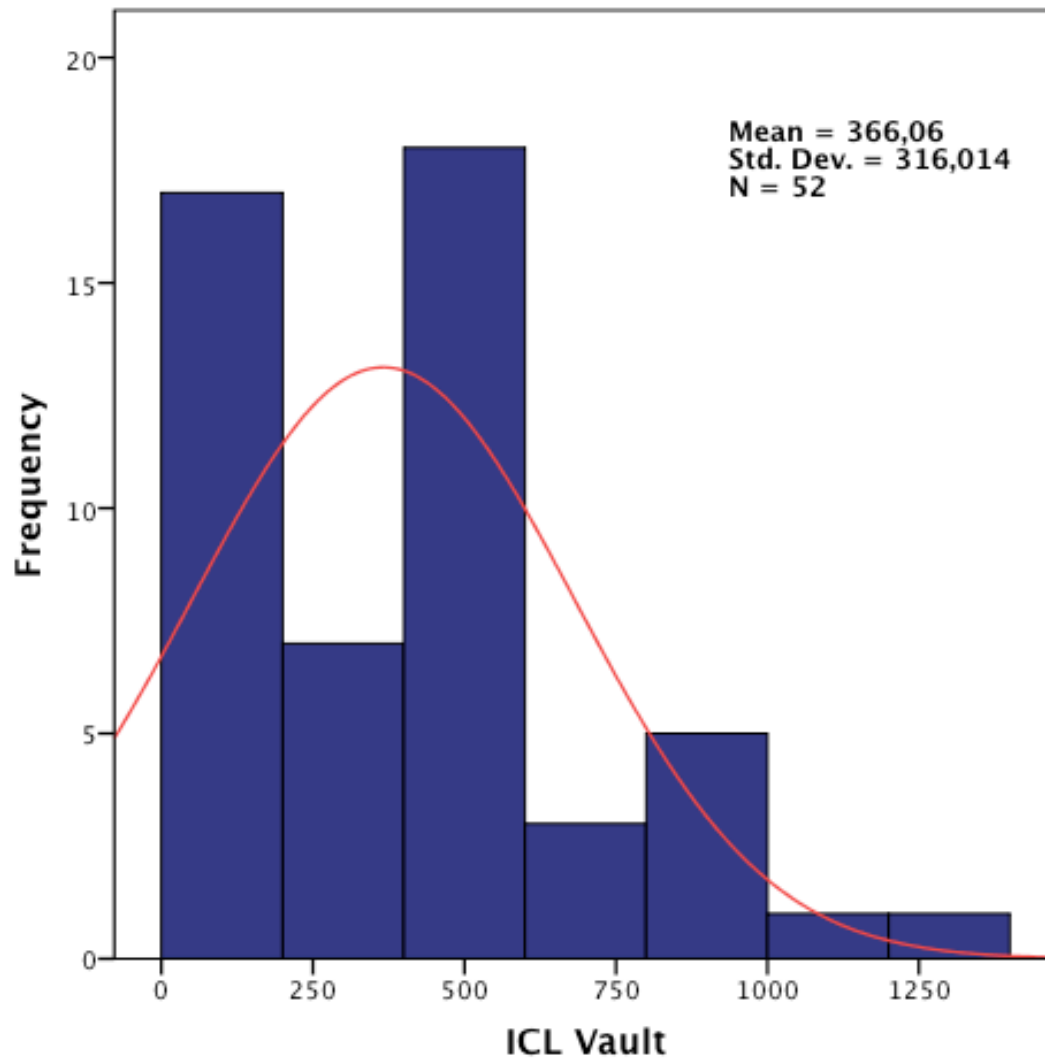
Previous BCVA: $0,90 \pm 0,17$
Post UCVA: $0,92 \pm 0,15$
Post BCVA: $0,93 \pm 0,12$

Efficacy Index: 1,14
Security Index: 1,03

Vault

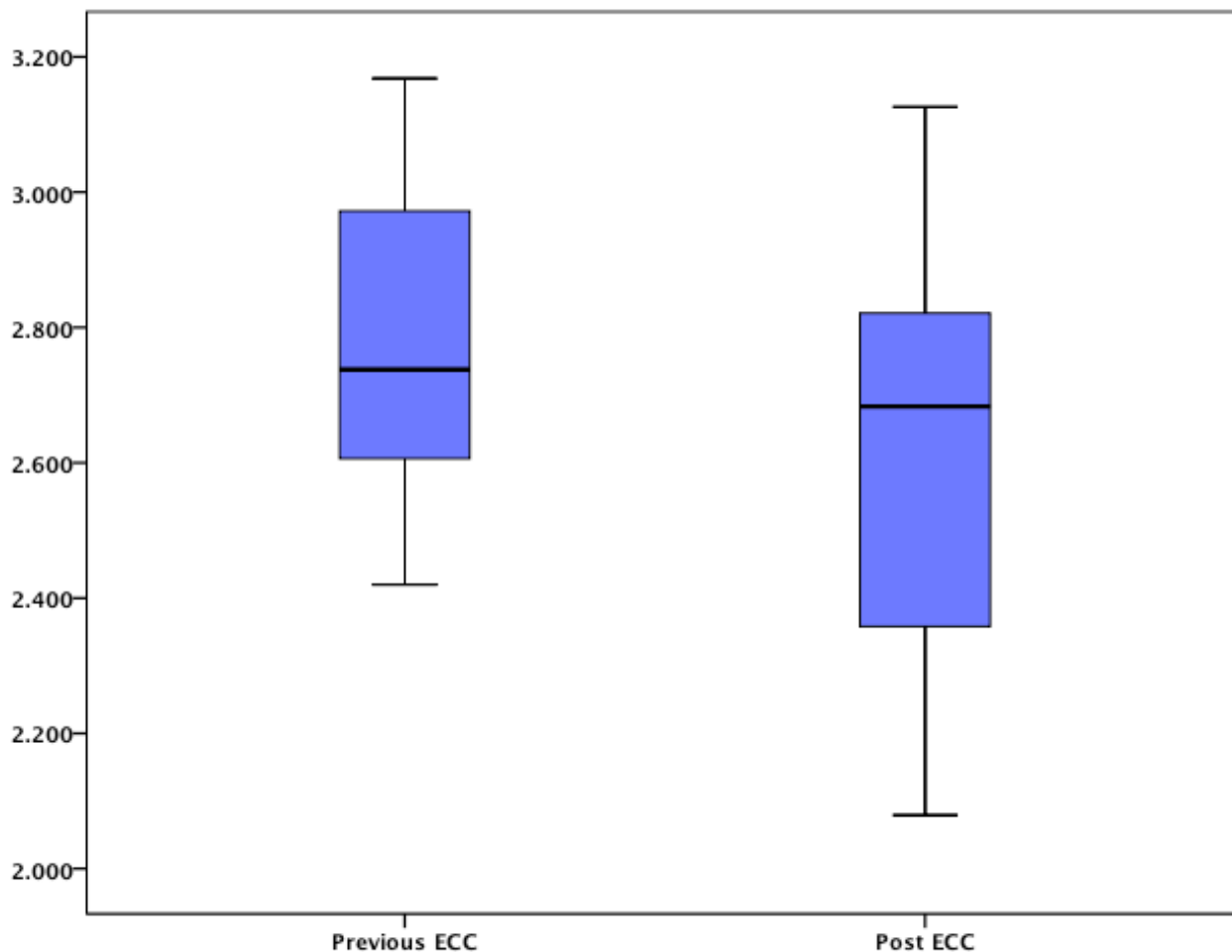


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Endothelial Cell Count

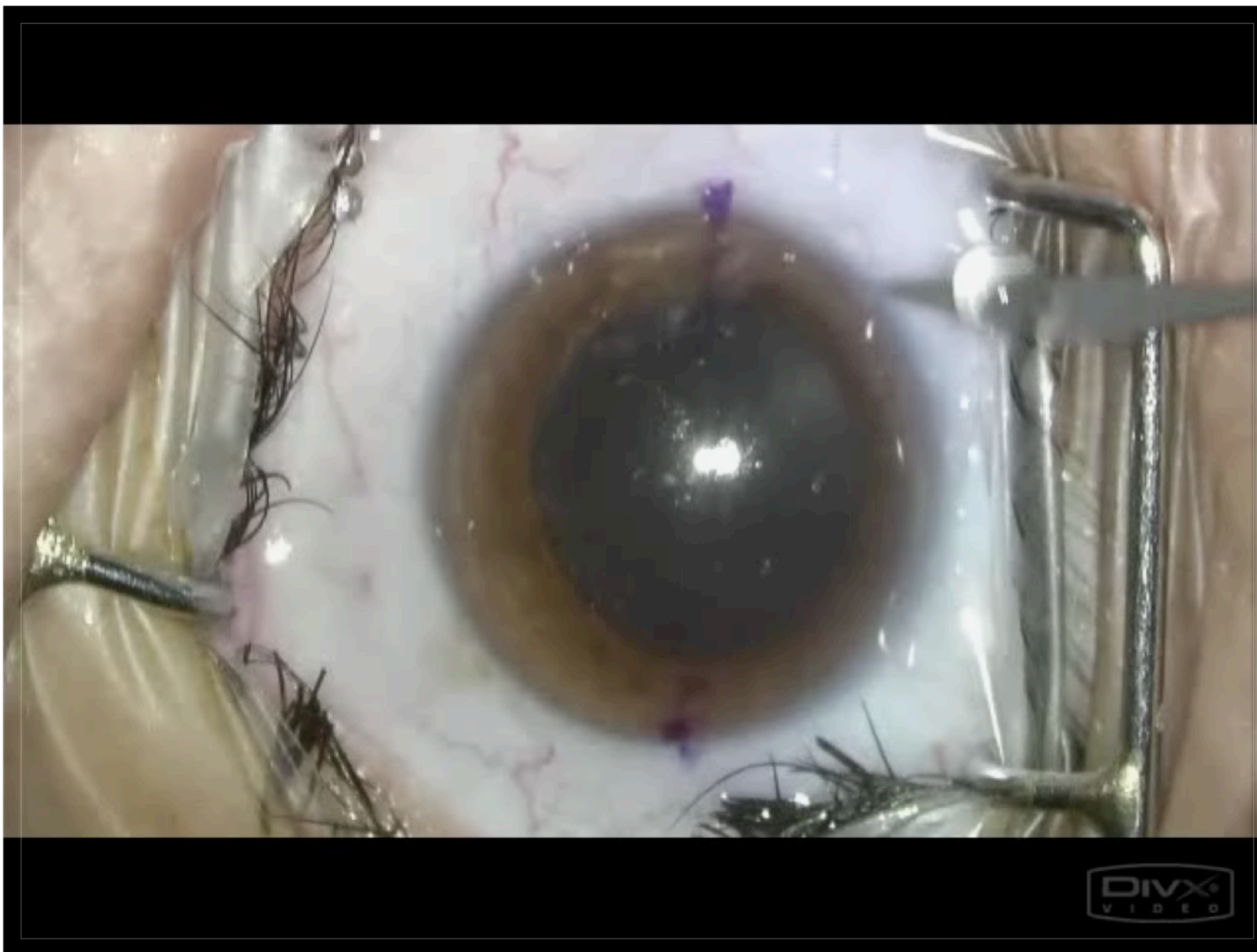
t-paired test: $p = 0.126$
N=22



Previous ECC: 2766 ± 228 cells
Post ECC: 2647 ± 392 cells



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Complications

Complication	Patients affected
Halos / Glare	7 (12,9%)
Pupillary Block	1 (0,2%)
Cataract	0
Retinal Detachment	0
Infection / Endophthalmitis	0

Conclusions



ICL is a predictable and safe procedure.

Pre-surgical accurate measurements are essential for a good ICL size choice.

Final Spherical Equivalents are near 0. Efficacy and Security Index are both >1 .

Vault distribution complies other studies.

No significant endothelial cell count loss is observed.

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