



# 13<sup>th</sup> Annual International Institute of Ophthalmology (RIO) 2019

Cairo, Egypt  
January 23-25, 2019

1/50

## Combined LASIK and Small Aperture Inlay Procedure



By  
**Dr Waleed Al-Tuwairqi, MD**  
Elite Medical & Surgical Center  
Riyadh -KSA

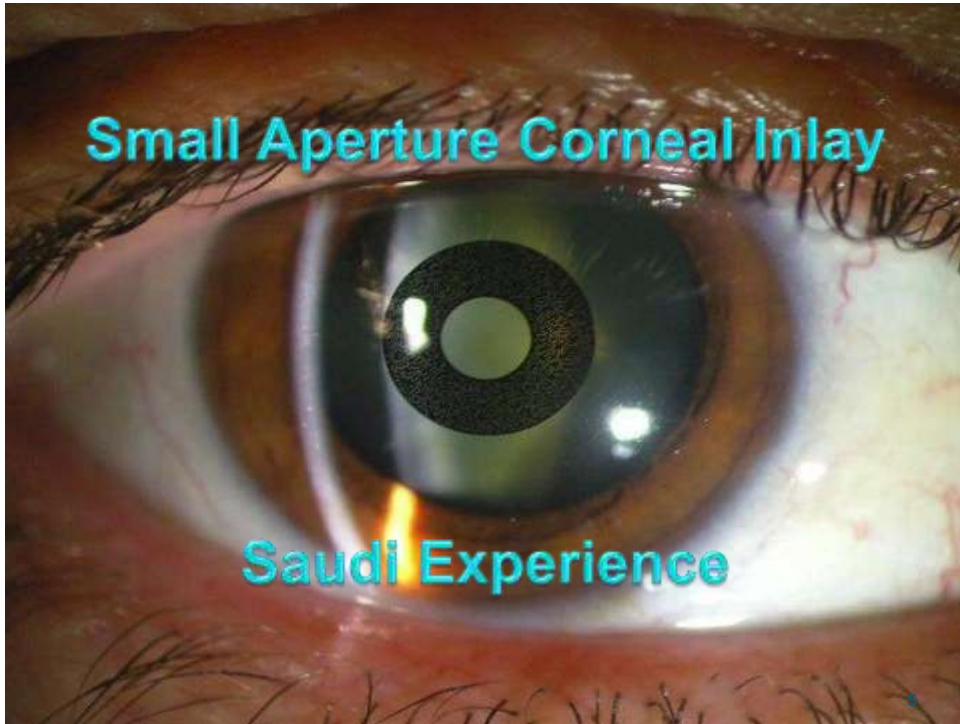
**Cairo,  
Egypt  
2019**

2



**Elite Hospital**  
Riyadh - KSA





### A new Surgical Technique in Treating Presbyopia Associated with Refractive Errors with Simultaneous LASIK and Corneal Inlay Implantation: Three-month results

**2013**

**Abstract**  
 Purpose: To introduce a new surgical technique in treating presbyopia associated with refractive error with simultaneous LASIK and corneal inlay.

**Methods:**  
 The simultaneous operation of the patients with hyperopia or myopia associated with presbyopia were included in the study. The new surgical technique was performed in a 300-bed tertiary care hospital. The level of refractive error was based on Top and central vision.

**Results:**  
 Based on preoperative and one month post-operative data, significant improvements were noted in visual acuity (mean visual acuity (VA) of 0.24 ± 0.02 vs 0.24 ± 0.02) and uncorrected near visual acuity (UNVA) (0.22 ± 0.02 vs 0.24 ± 0.02). The operating time was 22 in one patient (20%), 14 in three patients (30%) and 15 in one patient (30%). Postoperatively, 100% read 20 in three patients (60%) and 11 in one patient (30%). All results were similar at 1 month and three months postoperatively. No complications were recorded, none of the inlays were explanted, none of them were necessary to be re-implanted either at 1 or 3 months.

**General Considerations**  
 without changing the refractive error, Presbyopia is an age-related loss of AD-ACM. Simultaneous laser ablation must treatment of refractive error also presbyopia and improve near distance with the current technique described in Tawfik M et al. (2013)



**Patients and Methods**  
 This prospective, non-randomized, and non-comparative single-center study was performed in the Refractive and Corneal Center (RCC) in Riyadh, KSA. Inclusion: Two patients and was approved by the Ethical Board Committee of RCC in KSA. All patients were adequately informed about the aim and expected results of this type of refractive surgery, and they read and signed a consent form, which explained the subject's anatomy, possible risks, and potential complications.

# Corneal Inlay Approaches

**1- Current Approach** of Combined Lasik and A Small Aperture Inlay Procedure for correction of Ametropia and Presbyopia, Correcting Distant and Near Vision.

**2- New Approach** of Combined Lasik and a Small Aperture Inlay for Correction of Ametropia and Presbyopia, Correcting Distant and Near Vision, Improving the Above Mentioned Disadvantages of the Standard Technique.

7

**The New Approach** of Combined Lasik and a Small Aperture Inlay for Correction of Ametropia and Presbyopia, Correcting Distant and Near Vision



Small Aperture corneal Inlay, Saudi Experience

8

## Elite Eye Center Results

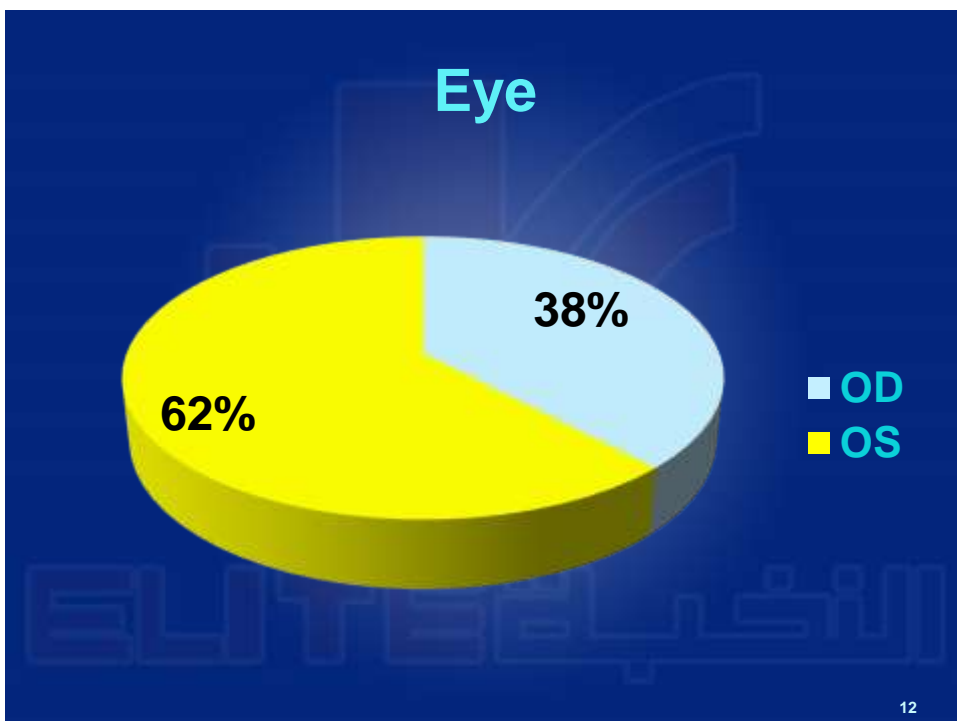
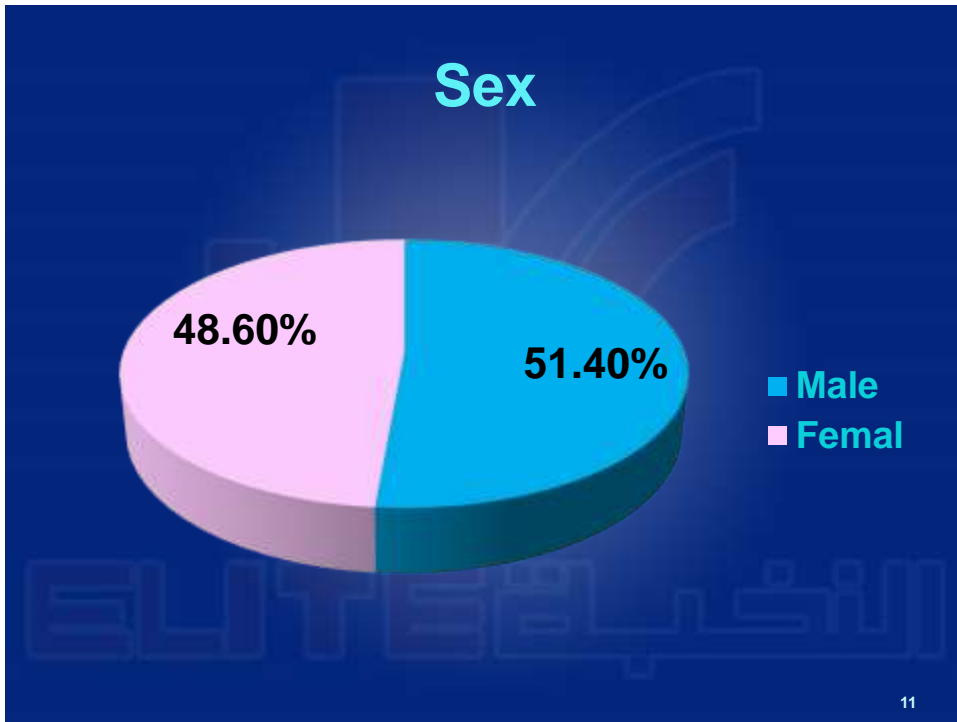


9

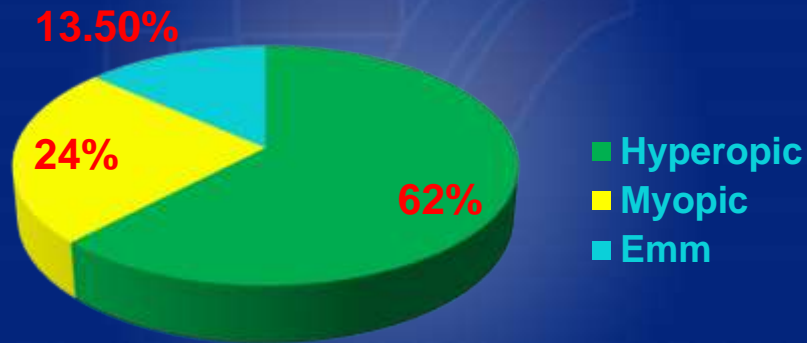
## Patients Demographics

- 37 eyes/37 patients
- Age Avg $\pm$ SD (range) 48.97 $\pm$ 4.22 years (42 to 60) years
- Sex 19 (51.4%) Male; 18 (48.6%) Female
- Eye 14 (38%) OD; 23 (62%) OS

10



## Pre-op Refractive Error

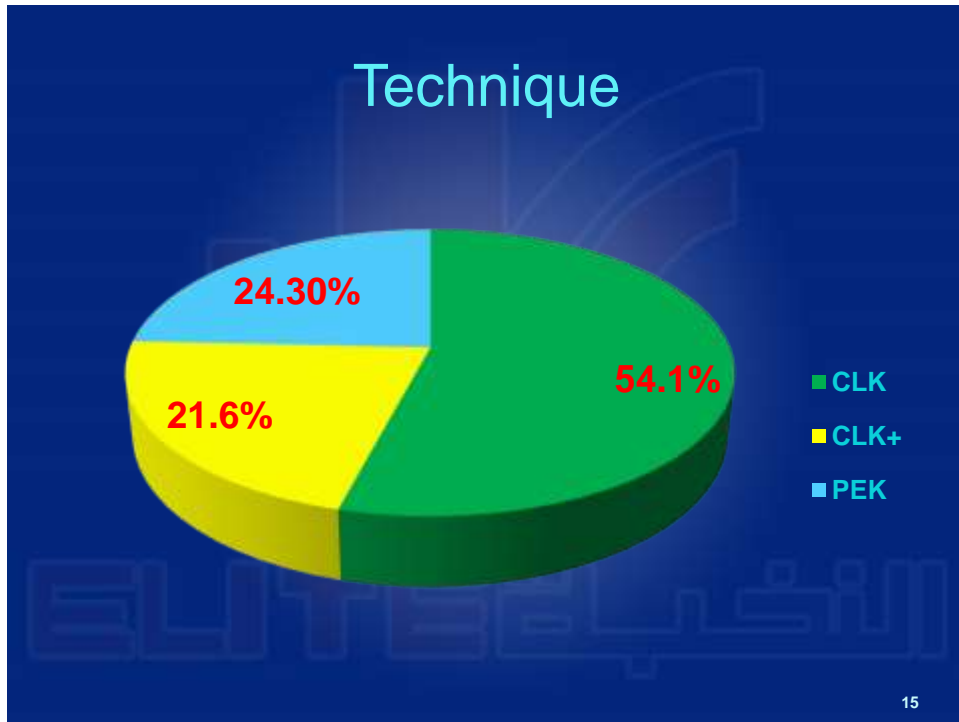


13

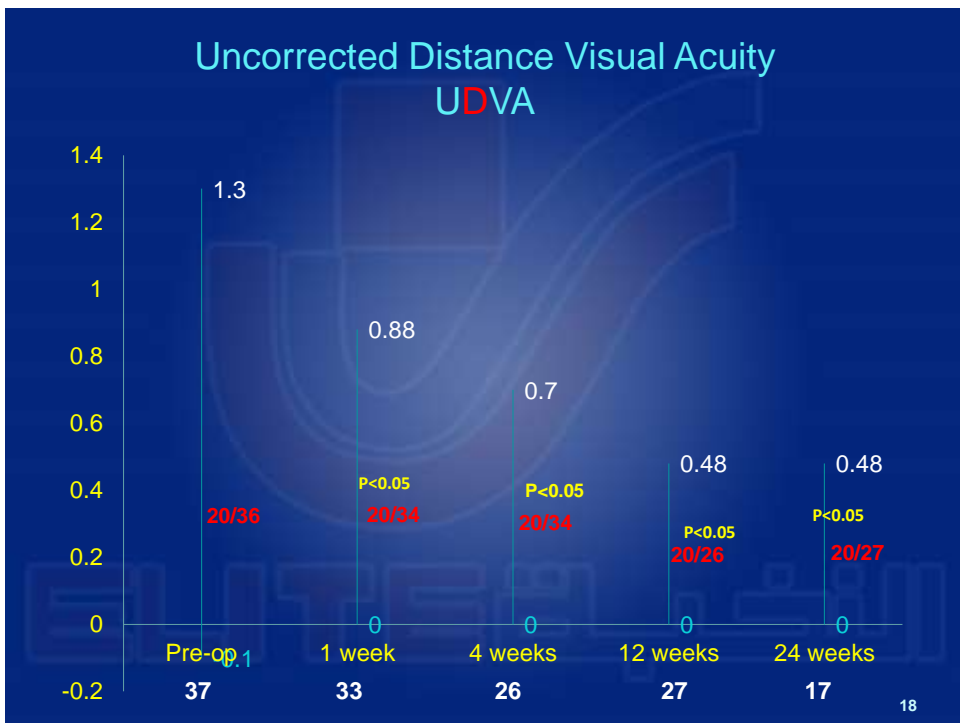
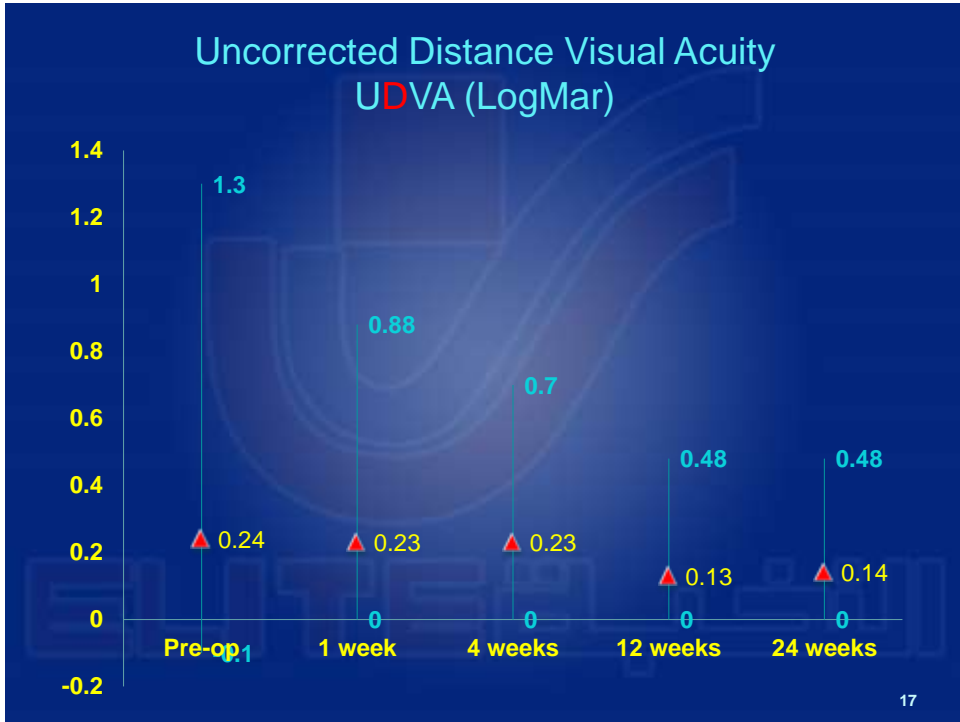
## Pre-op refraction Avg $\pm$ SD (range)

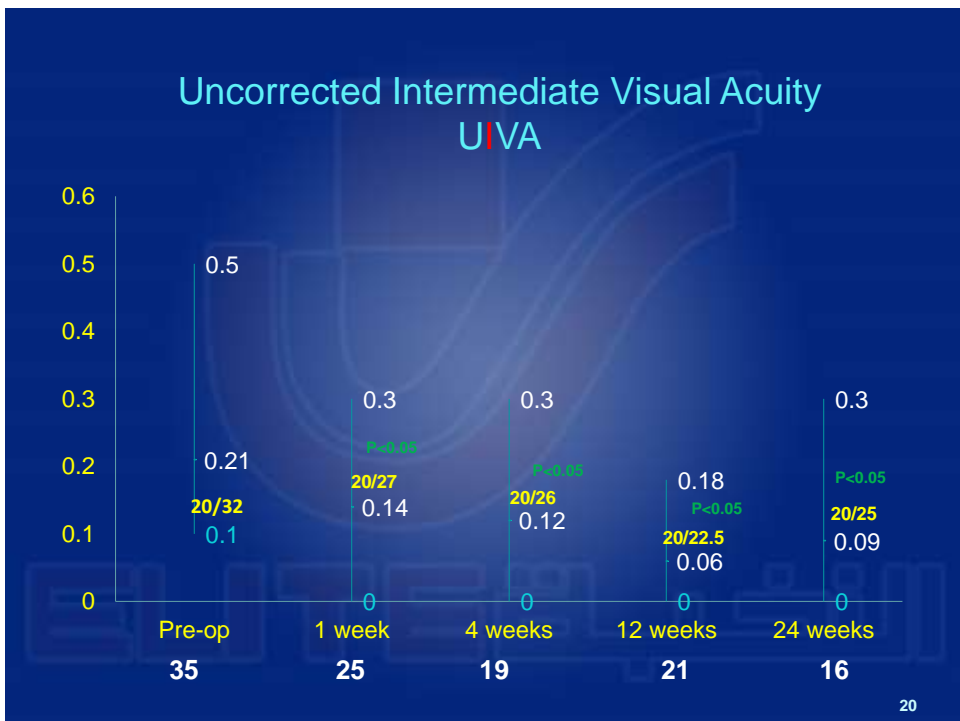
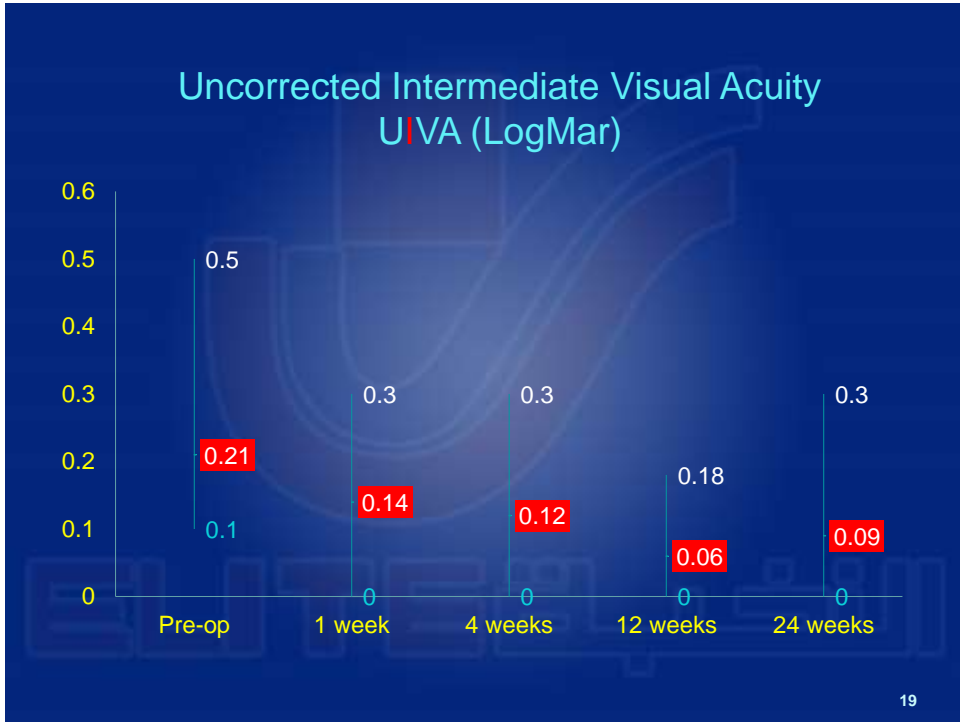
- **Sphere:**  $+0.63 \pm 1.66$  (-4.5 to +3.25) dpt
- **Cylinder:**  $-0.51 \pm 0.62$  (-2.5 to 0) dpt
- **SE:**  $+0.38 \pm 1.68$  (-4.75 to + 3) dpt

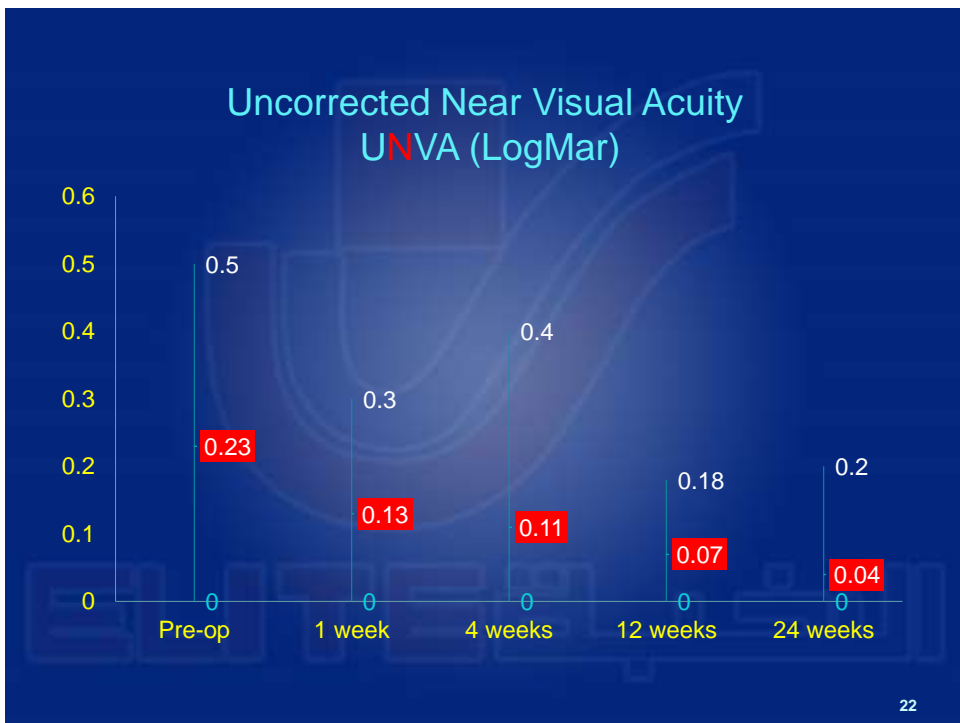
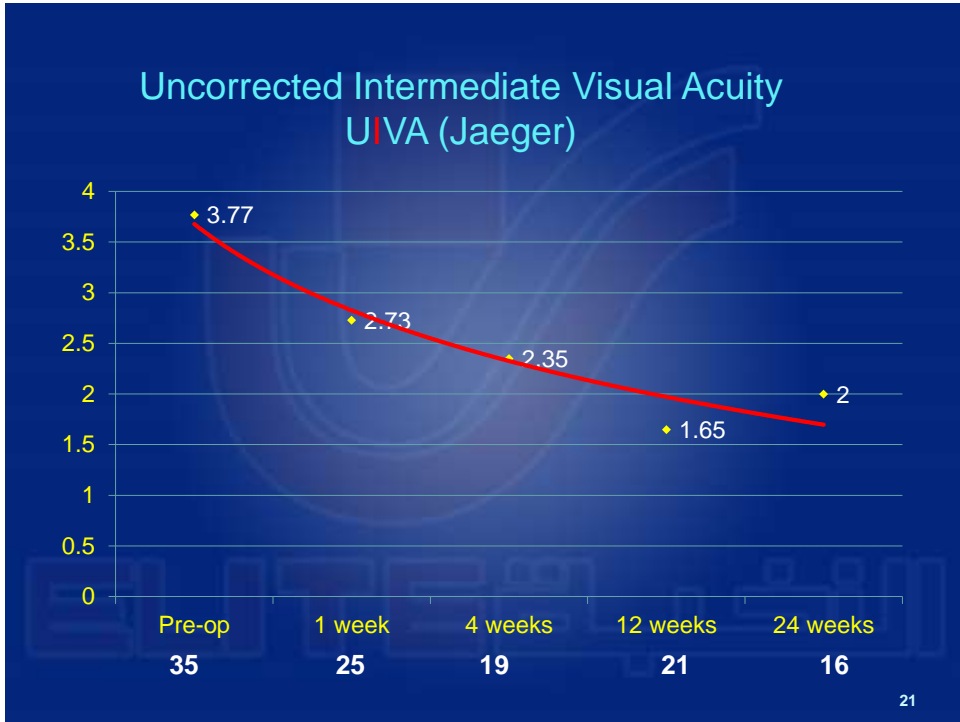
14

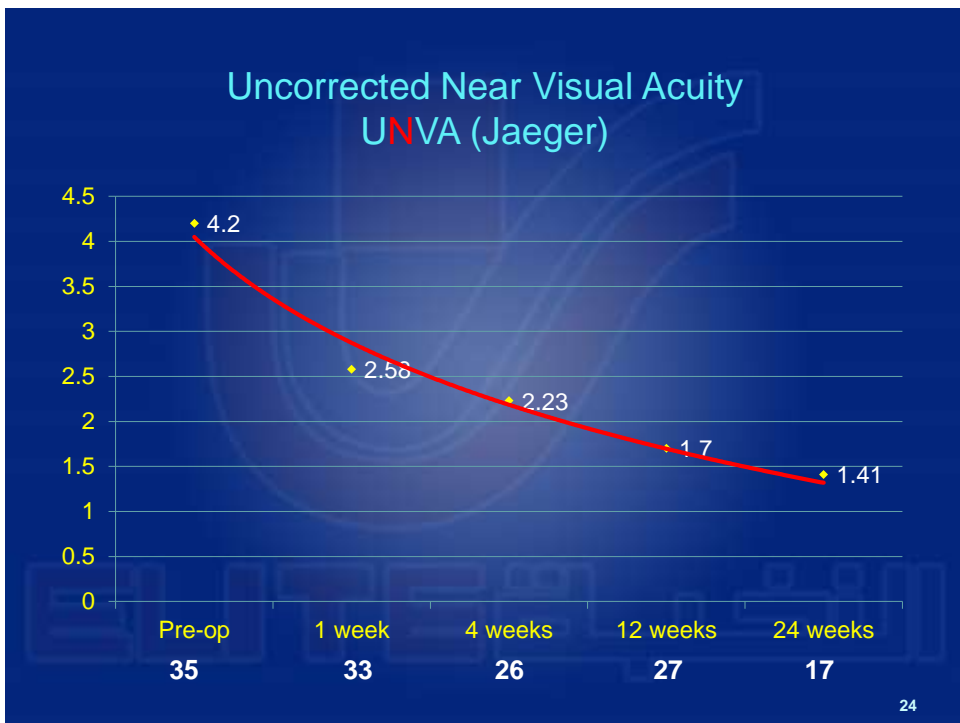
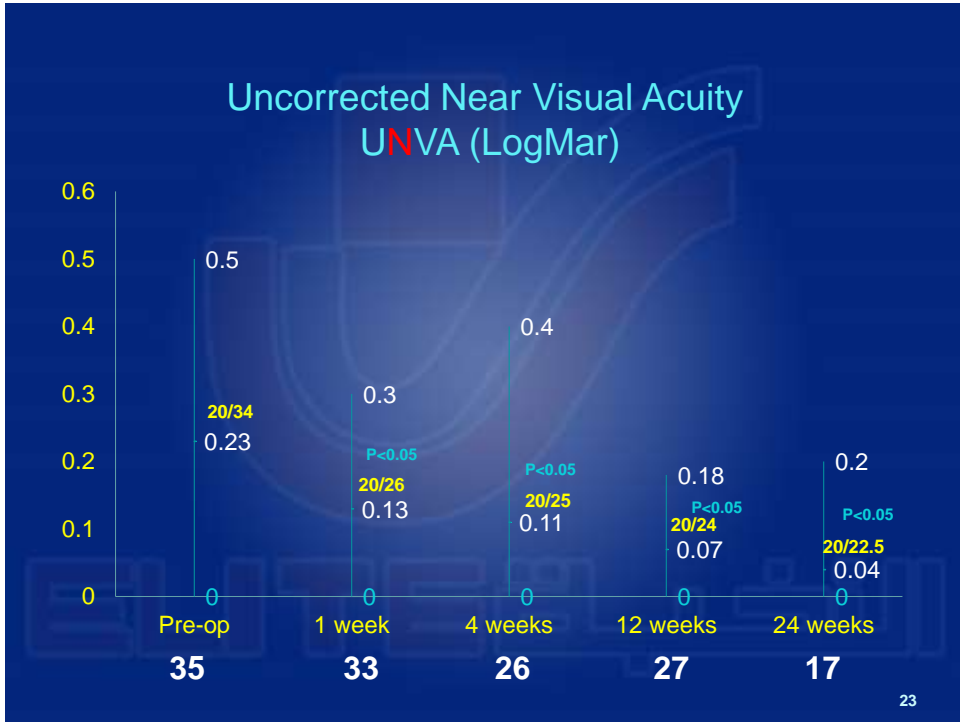


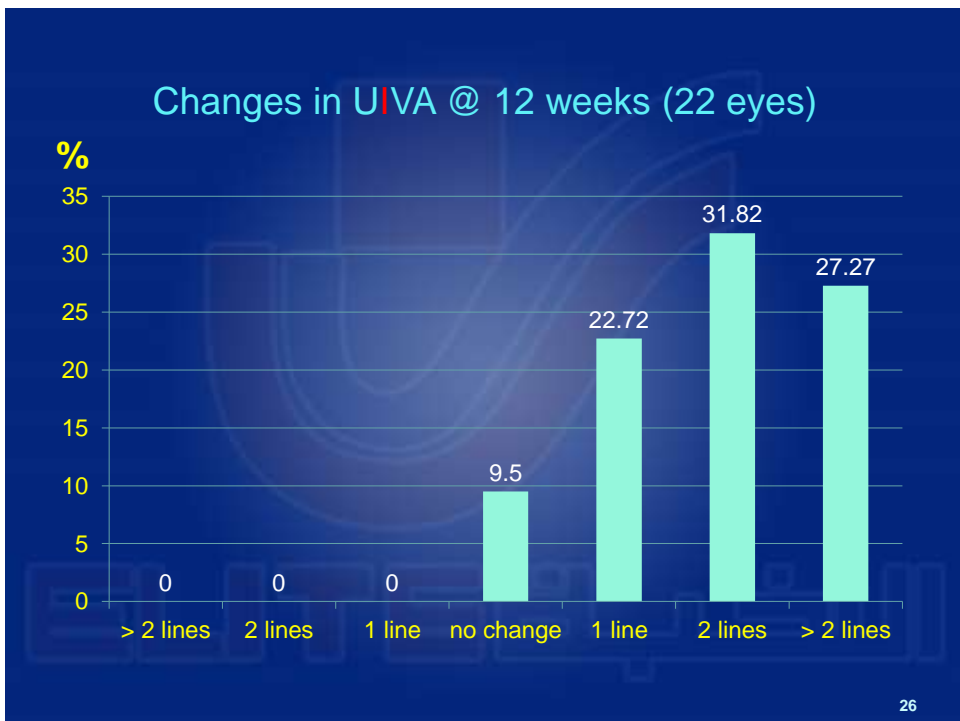
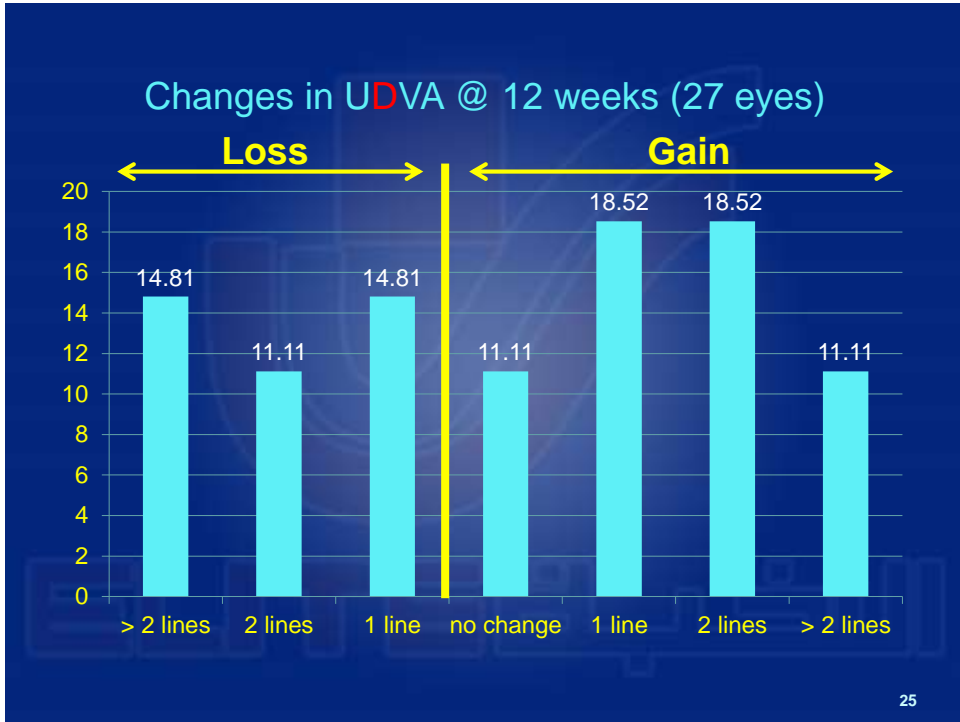


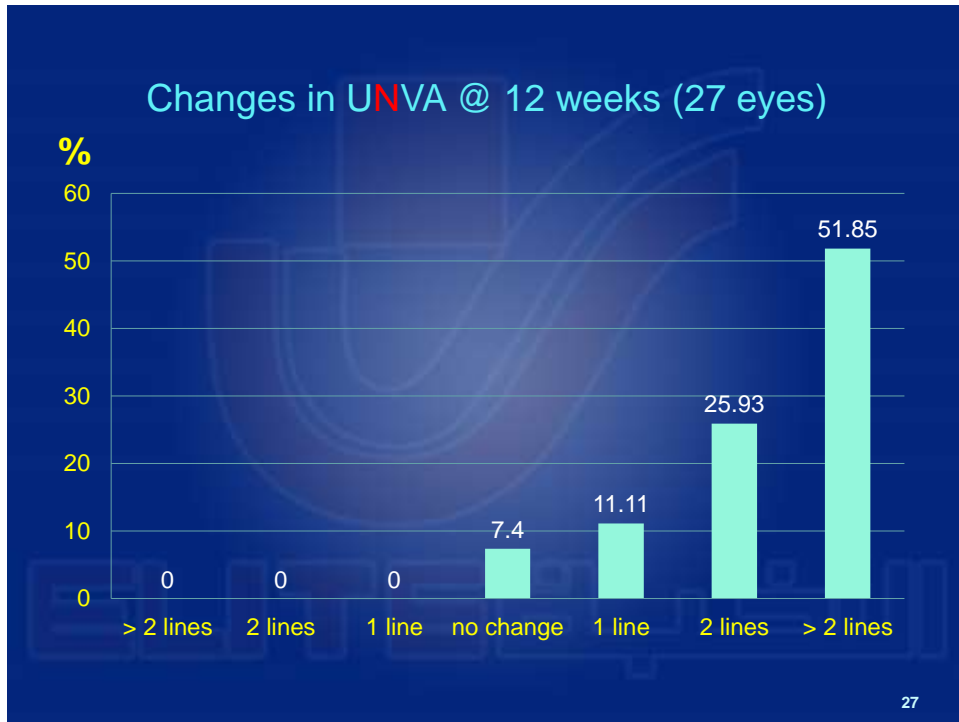












## Conclusion



- Small Aperture corneal Inlay is a **safe** procedure for correction of Presbyopia, **Non** of our patients lost any line for near or intermediate vision.
- Small Aperture corneal Inlay is an **effective** way to improve near & intermediate vision to a level of J2 or better.
- **>50%** of our patients gained  $\geq 2$  lines for **intermediate** vision.
- **>75%** of our patients gained  $\geq 2$  lines for **near** vision.

# Thank You

