

THE OCCLUSIVE CONTACT LENS (OCL) THE LAST RESORT TREATMENT OF AMBLYOPIA.

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Introduction

- Amblyopia is a leading cause of monocular visual impairment in children and young adults
- Amblyopia is estimated to afflict 1–4% of children
- Conventional Treatment involves patching and/or atropinization

Introduction

- The efficacy of opaque contact lenses as occlusion therapy for amblyopia has been established in the literature
- In cases noncompliant with conventional treatment successful use of occlusive contact lenses (OCLS) has been reported

Purpose of Study

- To evaluate the use of (OCLs) in treating amblyopia in children who failed the conventional amblyopia treatment
- To report on the side effects

Methods

- Retrospective analysis of case notes of all children who had occlusive contact lens used to treat amblyopia between Oct 2003 and Jan 2010 in UHW

Methods

- ⦿ Data was collected on:
 - Type of amblyopia
 - Treatment and compliance to treatment and its duration prior to the use of OCLs
 - Age at the start of OCL treatment
 - Duration of OCL wear
 - Side effects on the treated and untreated eye
 - Compliance with OCL wear
 - Visual acuity outcomes

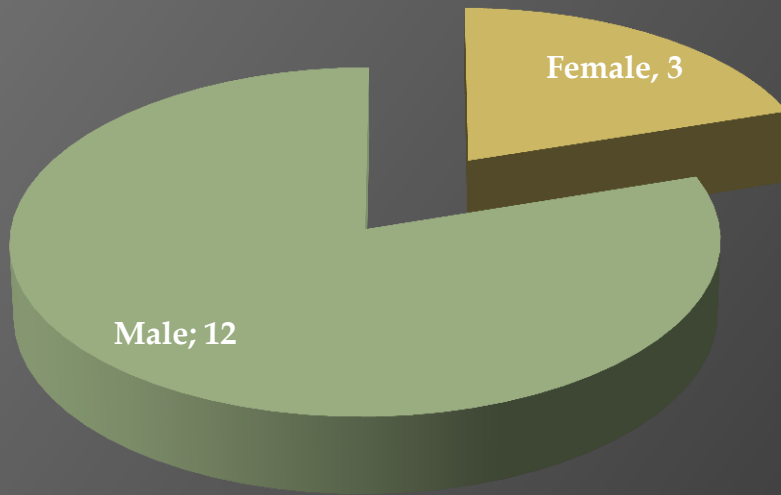
Materials

- A standard 13mm diameter soft contact lens (Leadasoft 65, Hydrophilic, by David Thomas, England, with a 9mm black occlusive zone, BC 7.80) was initially used
- The first two patients had a plano lens and subsequent patient had a plus 10 dioptre lens used

Results

- ⦿ There were 15 patients identified.
- ⦿ Two patients were excluded:
 - One has lost follow up shortly after the insertion of the OCL
 - The other has no enough information in his medical records.

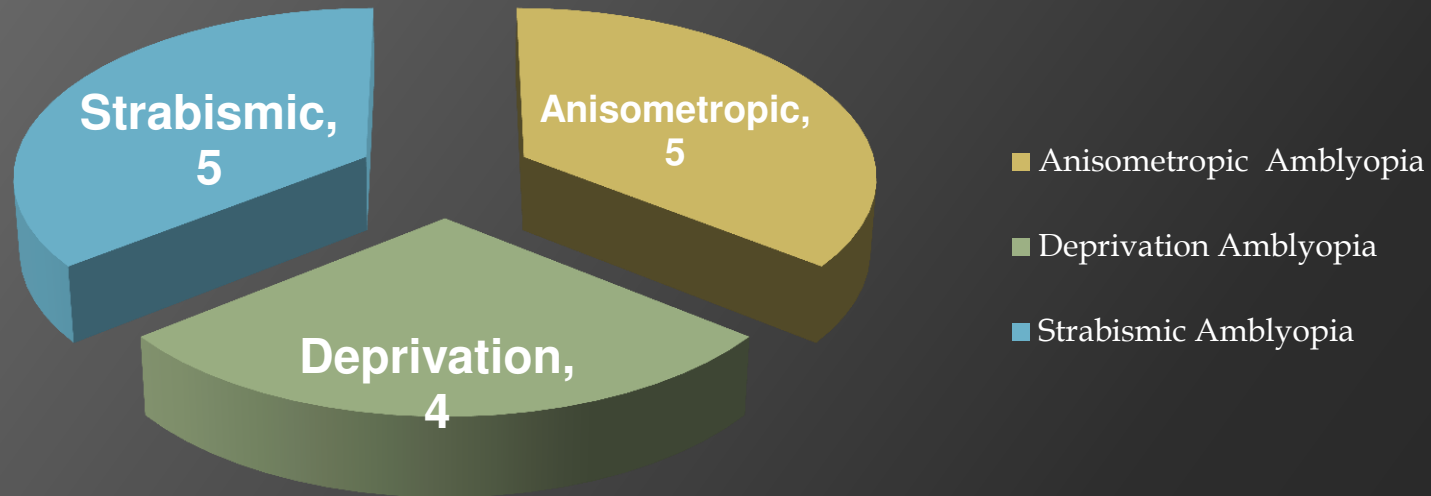
GENDER



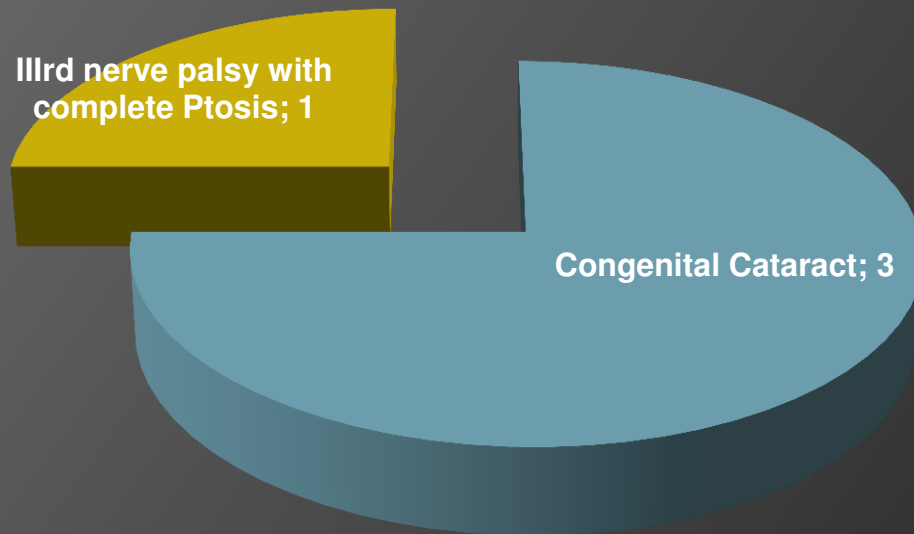
AGE

- Age range: 2-7 years
- Age average: 4 year

Type of Amblyopia



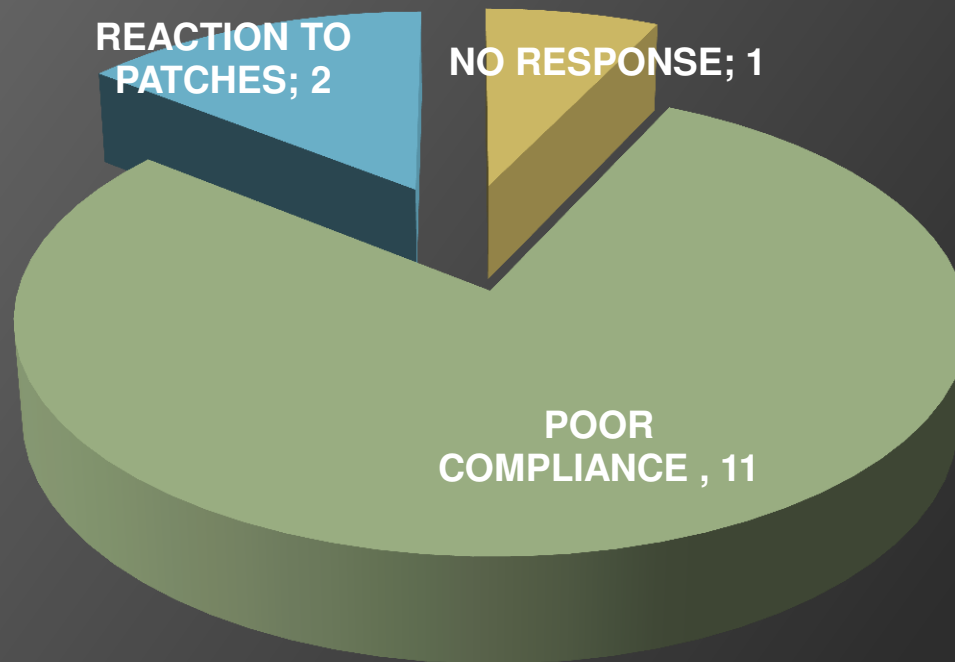
Deprivation Amblyopia



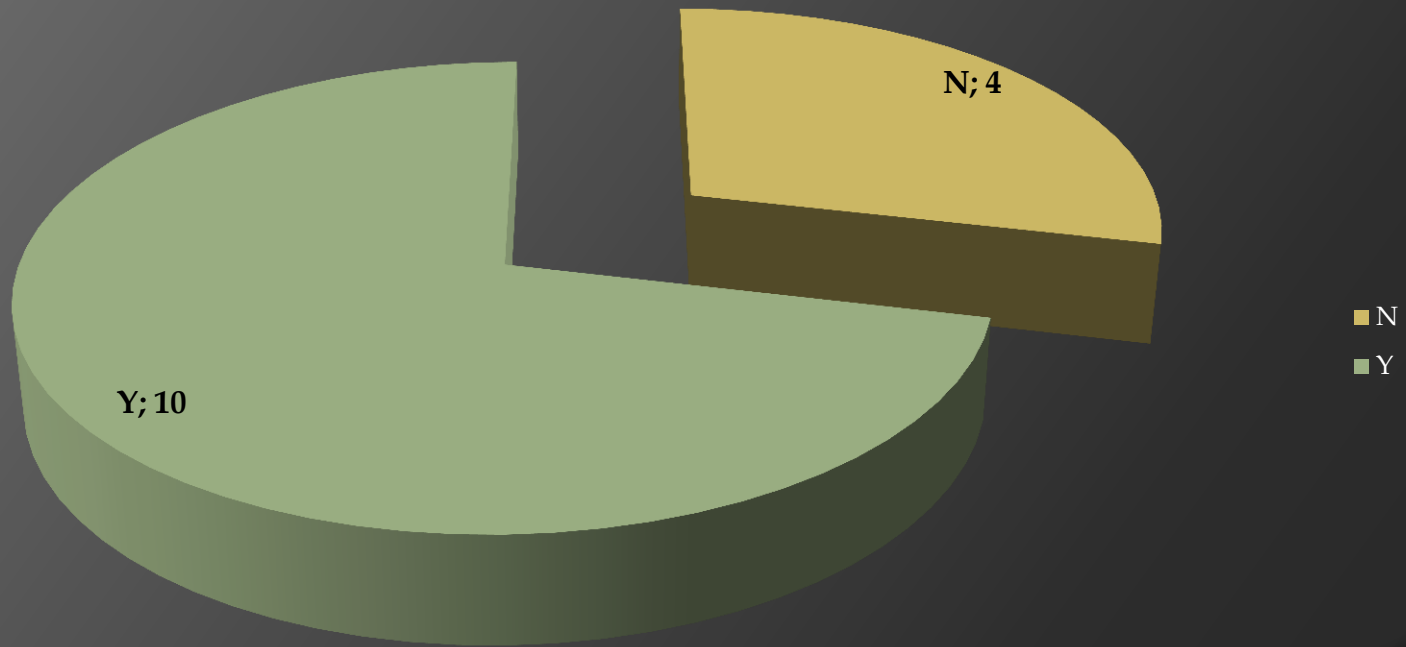
Pre OCL treatment

- All patients had pre OCL conventional amblyopia treatment.
 - All patients had Patching treatment
 - Period of patching varied between : 5 – 24 months
 - Average period of patching : 14.5 months.
 - Duration of daily patching varies between FT to 1-2 hrs /day.

Reason of Discontinuation of Patching



Atropinization



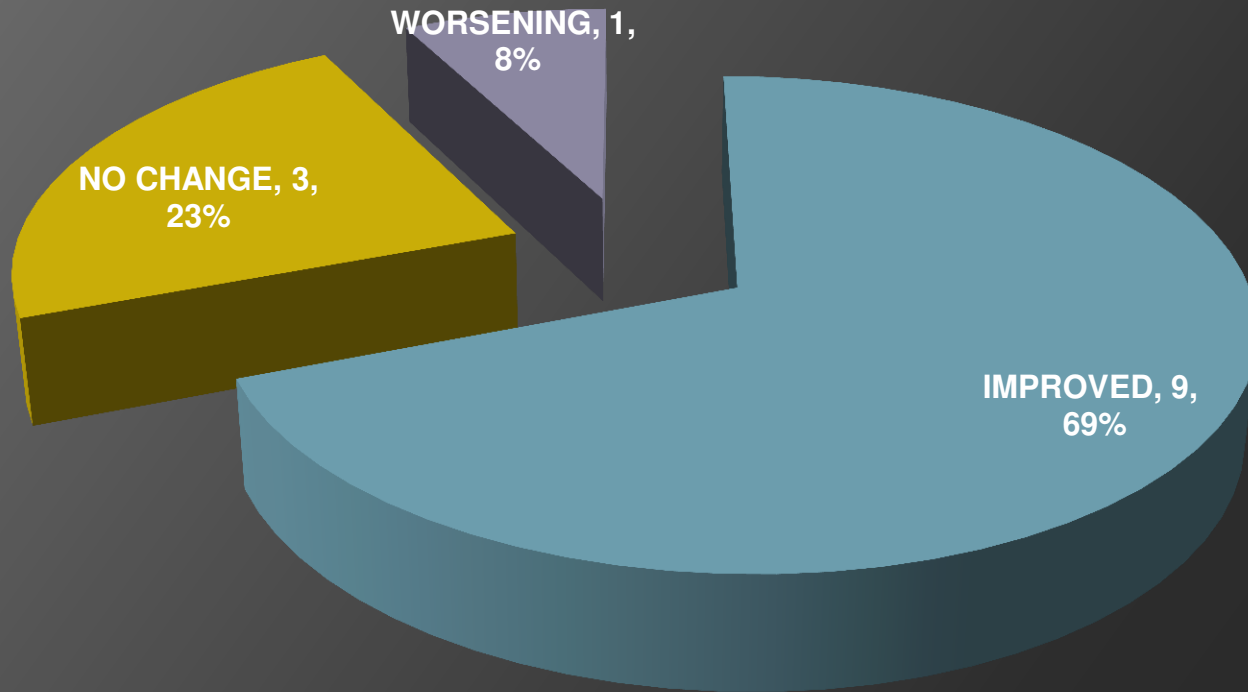
Atropinization

- ⦿ Duration of Atropinization:
 - Ranges: 2-9 months.
 - Average of 4 months.
- ⦿ Atropinization was discontinued as there was no improvement in VA.

OCL Treatment

- ⦿ Duration of OCL:
 - Ranges from (4 weeks to 6 months; average 2.2 months).

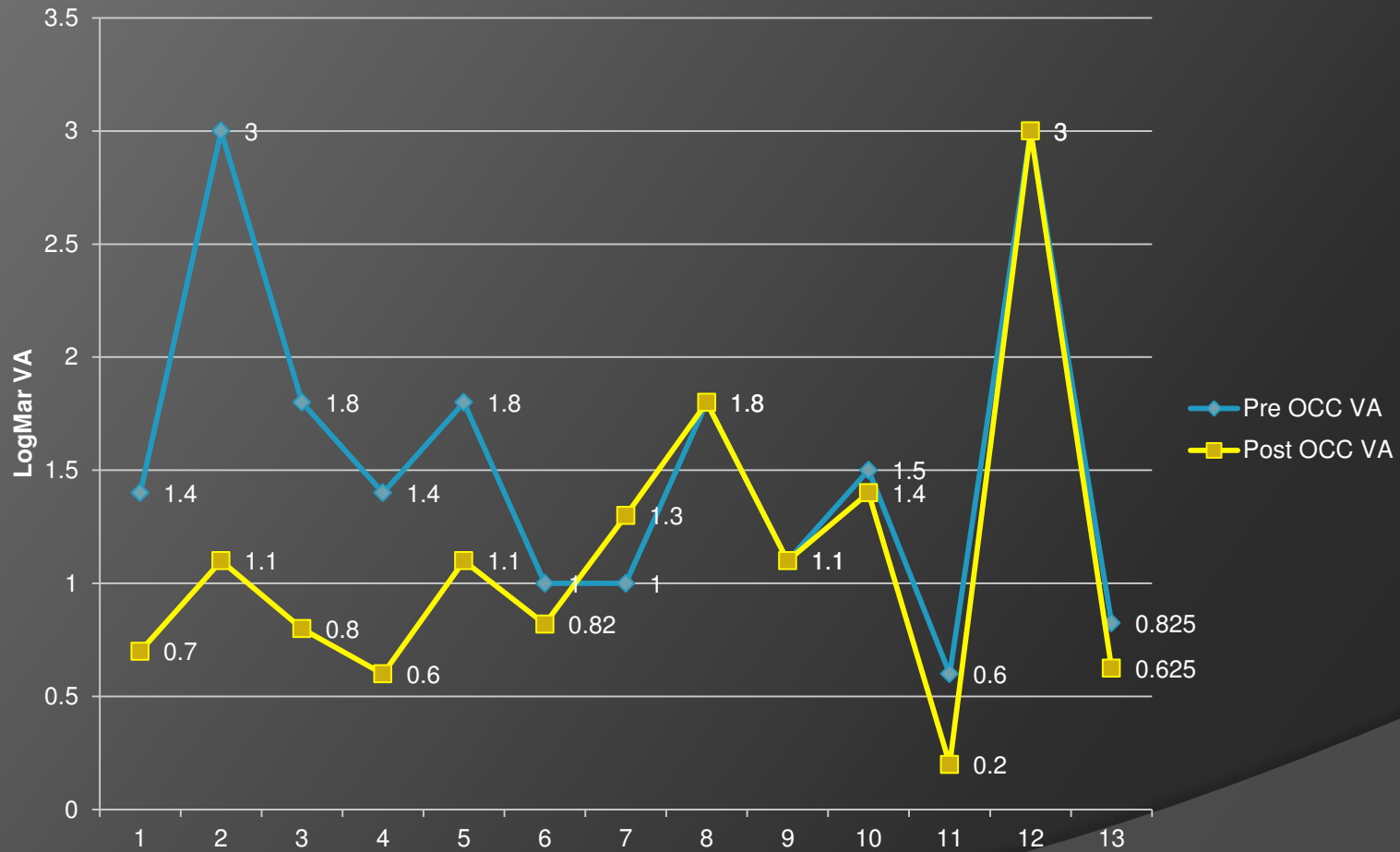
Results; VA



Improvement in VA

- Improvement in VA of the amblyopic eye after OCL use was noticed in nine patients(69%)
- No change in vision noticed in three patients
- One patient has worsening of his vision in his Amblyopic eye (pre OCL use VA 1.0, post OCL use 1.3)

Change in VA



Pre OCL. VA

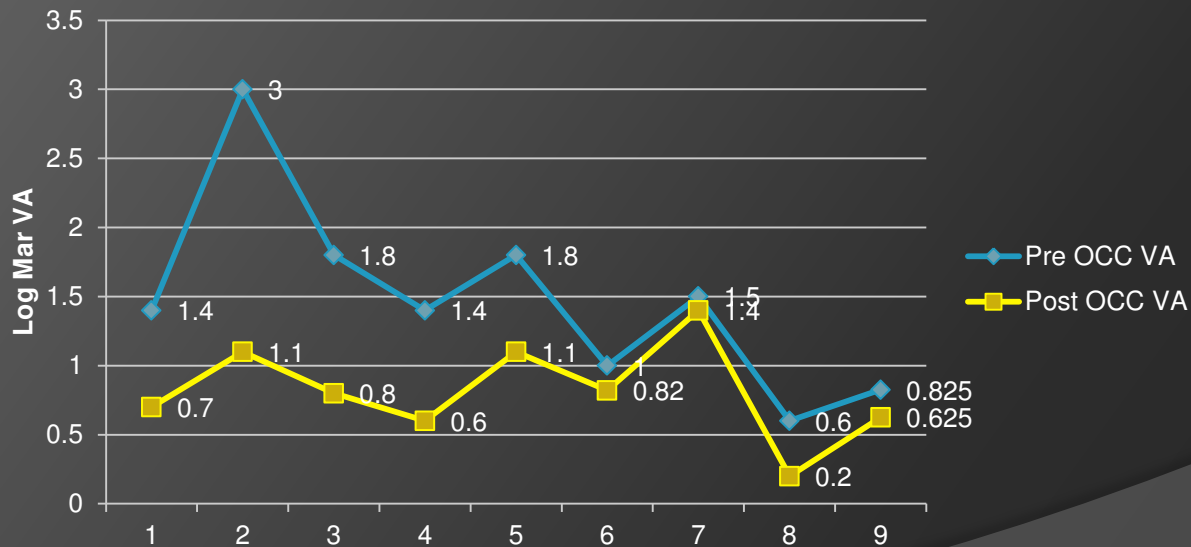
- ◉ Range from: (6/24 - poor fixation with the amblyopic eye
 - Logmar (0.6 – 3) *.
 - Mean; 1.48 Logmar

Post OCL. VA

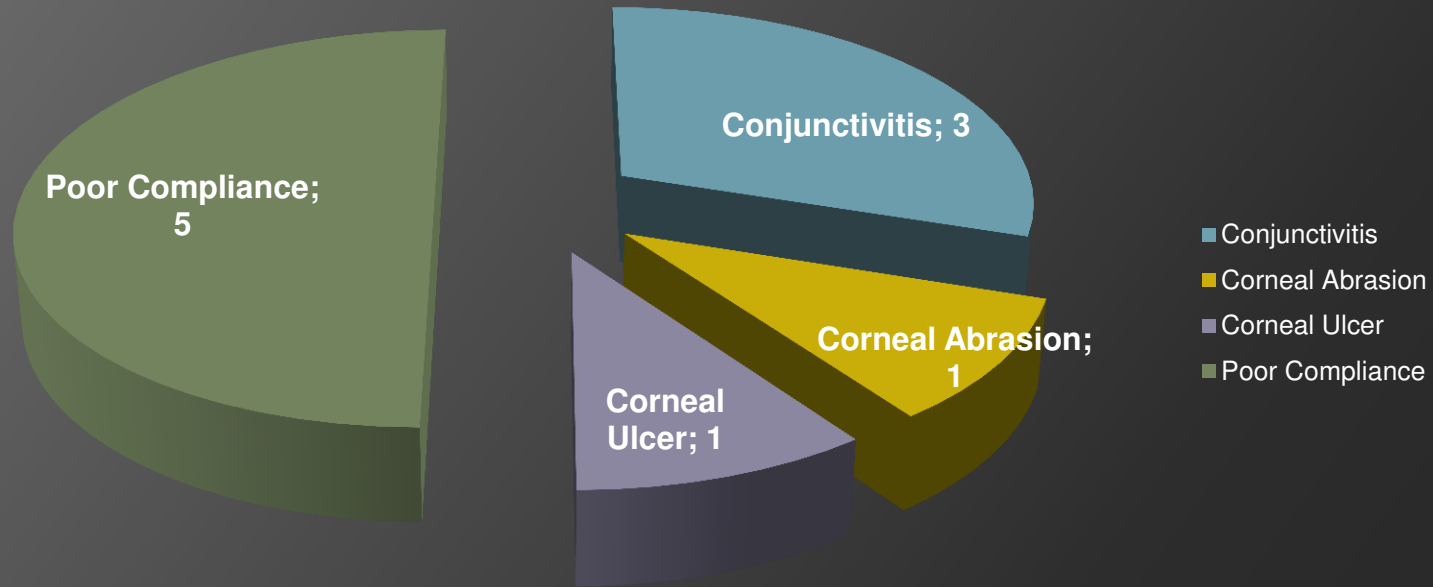
- ◉ Range from: (6/9-2/60) with the amblyopic eye
 - Logmar(0.2 – 1.4) .
 - Mean 0.81 Logmar.

Improvement in VA

- Mean : from 1.48 to 0.81 Logmar in the improved group.



Complications



Complications

- ⦿ Reported complications related to OCLs use were:
 - conjunctivitis in 3 patients;
 - one patient had peripheral corneal ulcer which was treated successfully
 - One patient noticed to have corneal abrasion.
 - Compliance was poor in 5 patients who repeatedly rubbed out the contact lens.
 - **No occlusion amblyopia was noticed in any patient**

Conclusion

- An OCL is a useful last resort treatment for amblyopia in cases where conventional treatment with patching or atropinization has failed.
- There was a modest improvement in visual acuity
- There was no occlusion amblyopia
- There was frequent loss of the lens as a result of eye rubbing and a number of treatable side effects

References:

- **Occlusion properties of prosthetic contact lenses for the treatment of amblyopia, Journal of AAPOS Volume 12, Issue 6** , Pages 565-568, December 2008. [Randall S. Collins](#), OD Wilford Hall Medical Center, Lackland AFB, San Antonio, Texas, [Megan E. McChesney](#), MD , Andrews AFB, Maryland , [Craig A. McCluer](#), OD Spangdalem AFB, Germany, [Martha P. Schatz](#), MD .
- **Treatment of amblyopia by extended-wear occlusion soft contact lenses.** *Ophthalmologica*. 1994;208:214–255. Tsubota K, Masakazu Y.
- **The effectiveness of occluder contact lenses in improving occlusion compliance in patients that have failed traditional occlusion therapy.** *Optom Vis Sci*. 2002;79:376–380. Joslin CE, McMahon TT, Kaufman LM.
- * **Source: The Epidemiology of Eye Diseases. Johnson GJ. London 2003, Arnold**



THANK YOU