# VISUAL OUTCOME FOLLOWING ND-YAG LASER CAPSULOTOMY IN POSTERIOR CAPSULAR OPACIFICATION IN PSEUDOPHAKIC PATIENTS

(Reference code-1938410/1168831)

Category-post graduate free paper

sub-category-cataract

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NO FINANCIAL DISCLOSURE

# INTRODUCTION

- Cataract is the most common cause of reversible blindness worldwide.
- Posterior capsular opacification (PCO) is the most common delayed complication of cataract surgery after extra capsular cataract extraction and its modifications SICS, Phacoemulsification with posterior chamber intra ocular lens implantation.
- The prevalence of PCO was reported to be 8.3 – 33.7%.
- It is also known as After cataract or secondary cataract.
- PCO is characterized by migration , proliferation and differentiation of lens epithelial cells which form plaque on the non-epithelial posterior capsule .

- PCO has 2 forms –fibrous and pearl forms
- PCO causes decreased vision, glare, impaired contrast sensitivity and other symptoms mimicking that of original cataract.
- If PCO involves the visual axis ,patients typically present with decreased visual acuity

- It is effectively treated by a non-invasive procedure, laser capsulotomy i.e. ND: YAG laser capsulotomy. (Neodymium- yttrium aluminium garnet laser)

- ND: YAG laser capsulotomy  is a noninvasive, effective, relatively safe technique to treat Posterior capsular opacification.

# AIMS AND OBJECTIVES

**The study was undertaken to :**

- To find out the visual outcome following Nd-YAG laser posterior capsulotomy in posterior capsular-opacification in pseudophakic patients.

# MATERIAL AND METHODS

- 50 eyes of 50 consecutive pseudophakic adult patients with PCO
- **STUDY DESIGN**: Hospital based prospective observational study
- **STUDY SITE**: The study was performed in the Department of ophthalmology , at Regional eye hospital  Kurnool.
- **STUDY PERIOD** : October 2019 to August 2020.
- **STUDY  POPULATION**: Patients greater than 40 years of age with PCO underwent ND-YAG laser Posterior capsulotomy.

# METHOD

All patients will be subjected to the following:

- Complete ocular examination including uncorrected visual acuity(UCVA) and Best corrected visual acuity(BCVA)

- Slit-lamp examination for the anterior segment and the nature as well as density of PCO.

- IOP measurement

- A minimum period of 4 months interval following cataract surgery was taken for ND:YAG laser posterior capsulotomy.
- The patients were then subjected to ND:YAG laser posterior capsulotomy in the affected eye
- The patients were followed up at 1st week, 3 rd week, 1month, 3months and 6months interval after capsulotomy to evaluate visual outcome .

# INCLUSION CRITERIA

- The Patients who were willing to participate, above 40 years of age, pseudophakic  with posterior chamber intra ocular lens implantation with PCO.
- Quiet eye with no inflammation.
- Cooperative patients.

# EXCLUSION CRITERIA

- Patients who had PCO associated with ocular diseases and complications like
    1. Retinal degenerations,
    2. Glaucoma,
    3. Complicated and traumatic cataract and
    4. Patient with significant media opacities e.g corneal opacity.
    5. Patients having any anterior segment pathology like conjunctivitis, keratitis, corneal dystrophy and anterior uveitis.

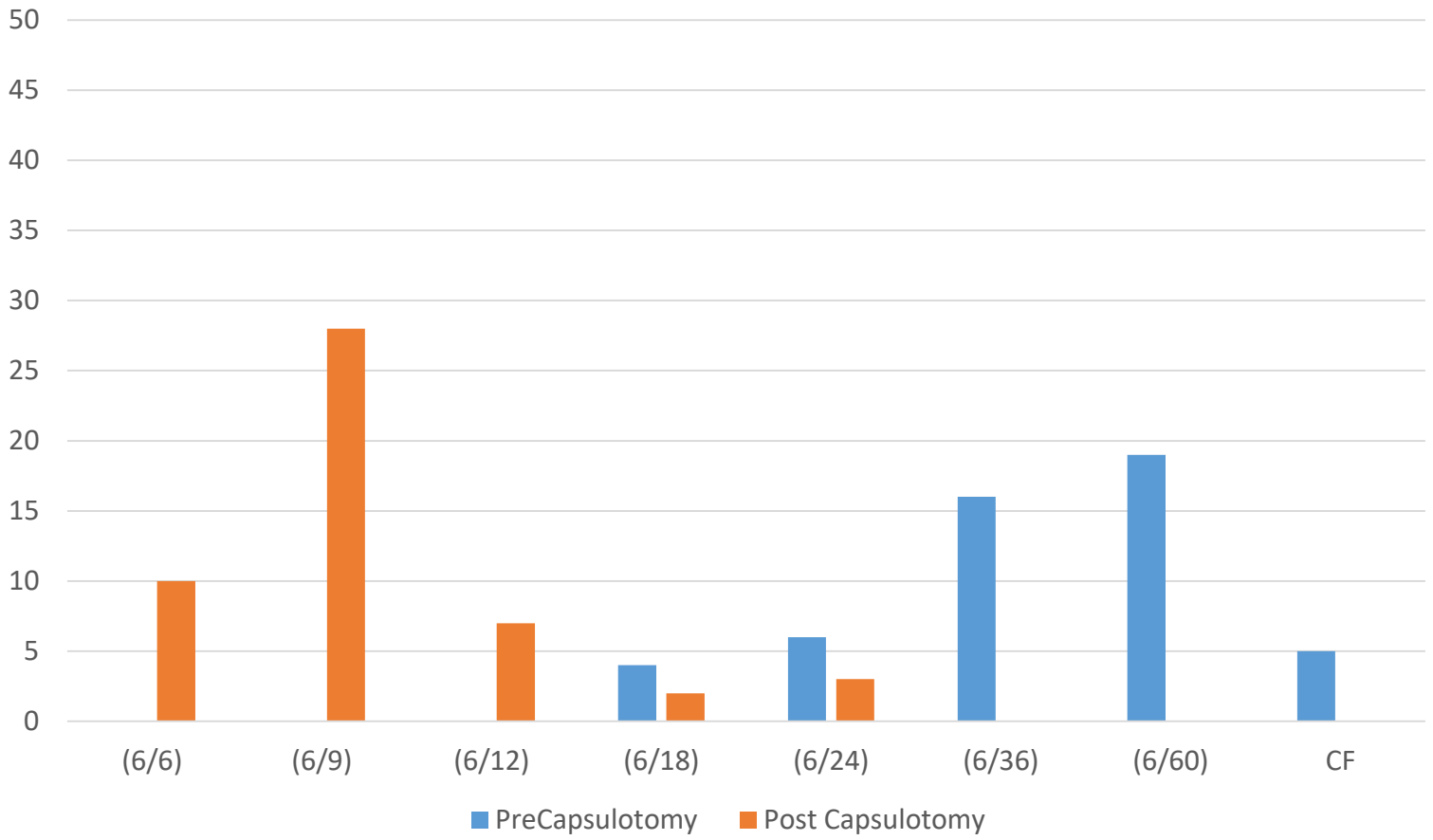
# RESULTS

- The study had female preponderance(56%). Most of the patients were 61 to70 years old. Most of the patients had Visual acuity of 6/60 pre laser capsulotomy and 6/9 post laser capsulotomy.
- 54%pre laser capsulotomy patients had visual acuity of 6/36 or better.94% post laser capsulotomy patients had visual acuity of 6/18 or better. The mean pre and post capsulotomy visual acuity was $0.15 \pm 0.07$ and $0.66 \pm 0.20$ respectively.

# Comparision Of BCVA Between Pre and Post Laser Capsulotomy(After 3rd week Followup)

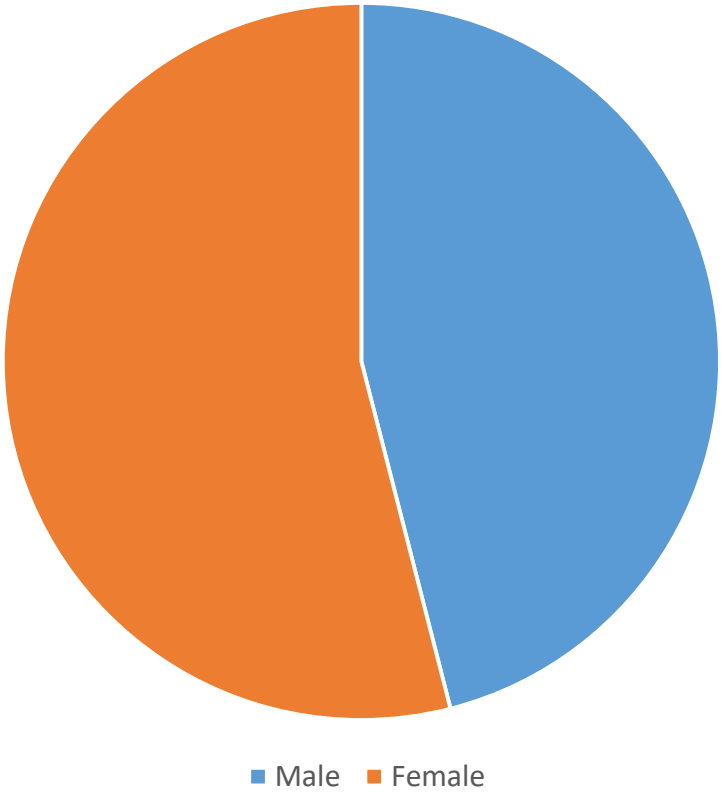
| BCVA | Pre laser Capsulotomy | Post laser Capasulotomy | P Value |
|---|---|---|---|
| CF | 5(10%) | 0 | <0.0001 |
| 6/60 | 19(38%) | 0 | |
| 6/36 | 16(32%) | 0 | |
| 6/24 | 6(12%) | 3(6%) | |
| 6/18 | 4(8%) | 2(4%) | |
| 6/12 | 0 | 7(14%) | |
| 6/9 | 0 | 28(56%) | |
| 6/6 | 0 | 10(20%) | |

# Comparision Of BCVA Between Pre and Post Laser Capsulotomy(After 3rd week Followup)



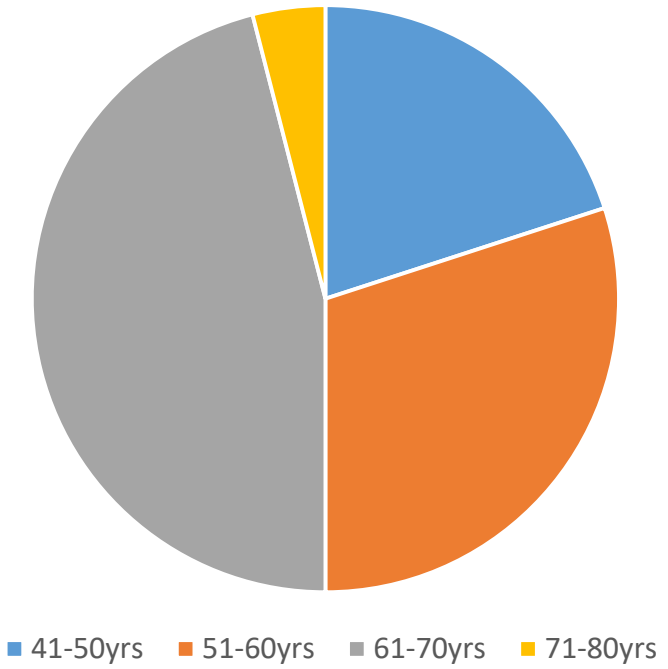
# Sex Wise Distribution of Patients

| Gender | No of Patients(n=50) | Percentage |
|---|---|---|
| Male | 23 | 46% |
| Female | 27 | 54% |



# Age Wise Distribution Of Patients

| Age Group | No of Patients | Percentage |
|---|---|---|
| 41-50yrs | 10 | 20% |
| 51-60yrs | 15 | 30% |
| 61-70yrs | 23 | 46% |
| 71-80yrs | 2 | 4% |



# CONCLUSION

- The posterior capsular opacification, which is a common delayed complication after cataract surgery(ECCE and its modifications), that can be managed  safely, effectively, noninvasively as an OPD procedure by ND: YAG laser posterior capsulotomy with remarkable improvement in visual outcome.

# THANK YOU