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# Examining The Visual Outcome And Intraocular Pressure Changes In Postoperative PCO Cases In Patients With And Without Diabetes

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## ABSTRACT

**The leading long-term risk associated with contemporary IOL surgery is posterior capsular opacification. The standard of care for its treatment is the Nd: YAG laser. This research aims to evaluate the visual outcomes and changes in intraocular pressure (IOP) between diabetic and non-diabetic individuals after Nd:YAG laser capsulotomy. Taking place at Khaja Banda Nawaz Teaching and General Hospital in Kalaburgai, this prospective research included 100 patients, 50 of whom had diabetes and 50 of whom had not. We performed Nd:YAG laser capsulotomy on all patients (45–75 years old) seen in our routine outpatient clinic who had noticeable posterior capsular opacification. Patients who met the inclusion and exclusion criteria were enrolled in the trial. Improvements in BCVA and changes in IOP were documented during patient follow-ups on the first day, first week, and four weeks.**

**Visual acuity improved in every single patient treated for PCO with Nd:YAG laser capsulotomy. When compared to the first week (34%), and first day (16%), the visual result after four weeks (41% had > 6/12) was determined to be superior. Those without diabetes had a superior end visual result at 4 weeks (52% had > 6/12) than those with diabetes (30%). Both groups of patients had a similar pattern of rise in intraocular pressure (IOP) on first day and first week of follow-up, which returned to near baseline levels at four weeks of follow-up.**

**When it comes to individuals with visually significant PCO, Nd:YAG laser capsulotomy is a great way to enhance visual acuity. The alterations in retinopathy are the reason why the diabetic group had a rather worse result. IOP temporarily rises after Nd:YAG laser capsulotomy, however it almost never stays high.**

**Key words: Nd:YAG, BCVA, PCO, IO**

## I. INTRODUCTION

Leading long-term risk associated with contemporary IOL surgery is posterior capsular opacification. It is common after cataract surgery, particularly for older individuals with senile cataracts.

Despite several attempts, none of current strategies for lowering PCO rates have shown promising results in long-term follow-ups. Thus, it need treatment. Most effective method of treating PCO today is the Nd: YAG laser, which has replaced surgical removal as gold standard.

The foundation of its therapy is Nd: YAG capsulotomy. To handle an intact posterior capsule that opacifies postoperatively, Nd: YAG offers an advantage since it is a non-invasive, short-duration, very effective, and generally safe procedure.

The likelihood of having PCO is higher in those with diabetes.

Using BCVA & IOP, this research aims to assess outcomes of Nd:YAG laser posterior capsulotomy in diabetics and non-diabetics who have acquired postoperative posterior chamber opacities (PCO).

### OBJECTIVES

- In order to evaluate the visual results in both diabetics and non-diabetics after Nd:YAG capsulotomy.
- Specifically, we want to see how intraoperative pressure varies in diabetics and non-diabetics after Nd:YAG capsulotomy.

## II. REVIEW OF LITERATURE

After simple cataract surgery, the most prevalent long-term postoperative problem is posterior capsule opacification. It often reduces visual acuity by obstructing the visual axis directly. As a result of mechanical forces, it might also lead to indirect consequences.

One common side effect of senile cataract extraction is posterior capsular opacification, which affects normally transparent posterior capsules. Although development of PCO2 is more common in diabetics, the patient might have a slower advancement rate of disease as compared to those without diabetes.3

From a clinical perspective, visual symptoms could differ greatly depending on the PCO dosage. Although many individuals may have moderate to severe PCO, they may not even feel the need for therapy if they do not have any symptoms. However, capsulotomy is necessary in instances when patients express concerns about even a little haze.

Visually noticeable opacification may take anywhere from a few months to a few years after surgery in adults, and the pace of opacification also changes as people become older.3, 5 The incidence of PCO tends to decrease as patients age. After a paediatric operation, almost every child will get PCO within a two-year period. For the majority of paediatric cataract surgeries, a primary capsulotomy is required.

No strategy has shown effective in the long run for preventing PCO, despite the widespread use of many techniques (e.g., capsular polishing, surface-modified lenses, antimitotic use, intraocular lens implantation with a concave posterior surface, etc.).

## III. METHODOLOGY

Research, conducted from March 2020 through August 2022 at KBN Teaching and General Hospital, Kalaburagi, will follow one hundred patients who see the ophthalmology department on a regular basis.

Fifty patients were assigned to the diabetes group and fifty to the non-diabetic group. The research covered all patients who were between the age range of 45 to 75 years.

Every patient had a thorough medical history documented on a specially created form. Take note of the time that passed among surgery and the onset of visually significant symptoms, such as reduced visual acuity, glare, or changed colour sensitivity, while taking your patient history. We used Snellen's chart to measure visual acuity, and we saw a little improvement in the patient's eyesight.

Phenylephrine 5% and tropicamide 0.5% were used to dilate the pupils. The kind and grade of the PCO were carefully considered during slit lamp examination of anterior segment. Additionally, a fundus examination was conducted. Golmann Applanation Tonometry was used to assess intraocular pressure.

According to the results of the RBS and HbA1c tests, patients were classified as either diabetes or non-diabetic.

Assessment of PCO:

Slit lamp biomicroscopy with retroillumination was carried out with dilated pupils, with particular focus on the posterior capsule underneath the intraocular lens optic. According to Kucuksumer Y et al.45, PCO grading was carried out by subjectively evaluating the density and extent (as measured by its negative impact on BCVA) of the migration of lens epithelial cells on the posterior capsule.

| |
|---|
| Grade 0: posterior capsule completely clear and no LEC migration. |
| Grade 1: LEC migration at the periphery with a clear visual axis |
| Grade 2: LEC migration onto the visual axis with no drop in BCVA. |
| Grade 3: LEC migration onto the visual axis with BCVA better than 6/12 Grade 4: LEC migration onto the visual axis with BCVA of 6/12 or worse |
| Grade 4: of PCO was considered as visually significant PCO and was considered as an indication for Nd:YAG capsulotomy. |

Nd:YAG capsulotomy:

- Visual acuity was assessed using snellen's chart and intraocular pressure with applanation tonometry after determining the kind and grade of PCO.
- Grade 4 PCO patients were all given Nd:YAG laser capsulotomy.

Procedure:

- An informed consent was obtained after the patient was briefed on the operation.
- One or two drops of proparacaine 0.5% are used to produce topical anaesthesia.
- The patient was taught to maintain stable fixation by providing an illuminated target and ensuring they were comfortably situated at the APPA SAMY Nd:YAG laser equipment.
- The patient's eyes were stabilised and their laser optics were improved and made more precise with the use of an Abraham lens, a kind of contact lens.
- The Nd:YAG laser was used to generate a cruciate capsulotomy by directing the beam slightly beyond the posterior capsule and avoiding the centre 4 mm of the lens.
- The hole was cut starting from above the 12 o'clock position and working its way down to the 6 o'clock position. The shots are then placed at 3 and 9 o'clock. Cuts are made to the flaps so that they may retract and return to their original locations around the procedure's perimeter.
- To minimise central IOL pitting and to anticipate the posterior capsule's reaction to photodisruptive pressures, the capsulotomy was initiated eccentrically with low energy 1 to 2 mJ/pulse.
- Following the completion of the operation, the patient will get instructions about the next planned appointment for this investigation.

**Follow up:**

- On the first, first, and fourth weeks after the surgery, patients were contacted for follow-up appointments.
- Both the BCVA and the IOP were documented at every follow-up.

## IV. RESULTS

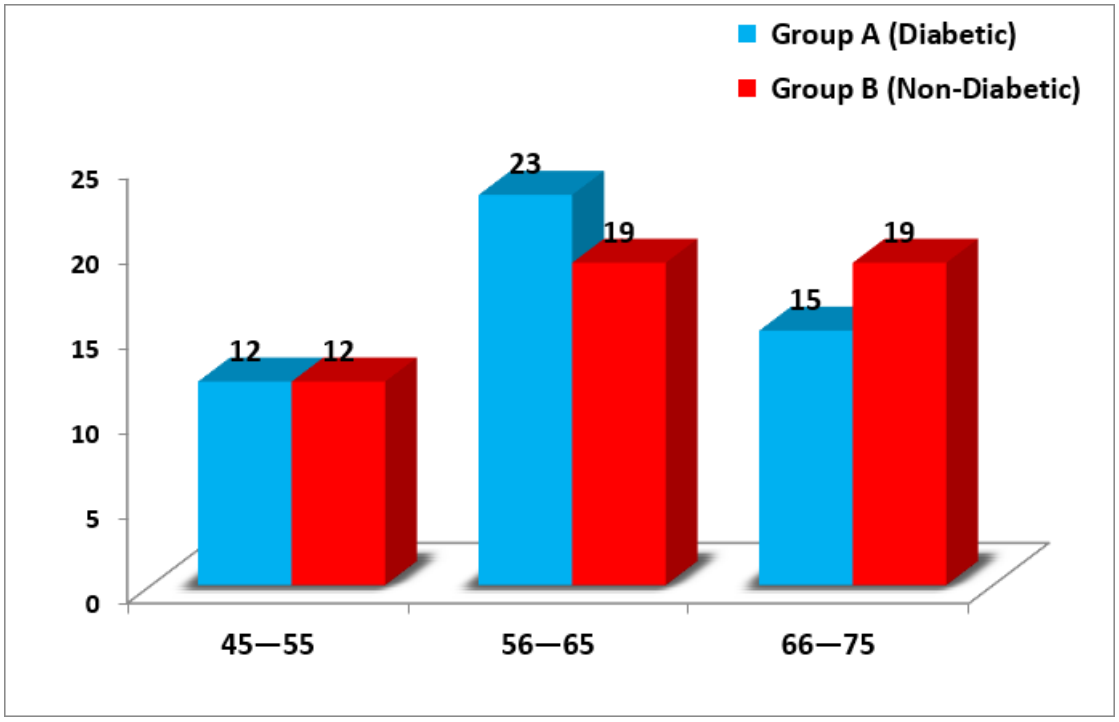
Examining how individuals with and without diabetes fare visually and how their intraocular pressure changes is the primary goal of this research. Half of the patients were randomly assigned to the diabetes group and half to the non-diabetic group, for a total of 100 samples.

**Table No.1: Age wise distribution of patients**

| Age in years | Group A (Diabetic) | | Group B (Non-Diabetic) | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| 45—55 | 12 | 24.0 | 12 | 24.0 | 24 | 24.0 |
| 56—65 | 23 | 46.0 | 19 | 38.0 | 42 | 42.0 |
| 66—75 | 15 | 30.0 | 19 | 38.0 | 34 | 34.0 |
| Total | 50 | 100.0 | 50 | 100.0 | 100 | 100.0 |
| Mean ± SD | 61.50 ± 8.04 | | 62.00 ± 8.39 | | 61.75 ± 8.14 | |
| t-test value<br>P-value | t = 0.304 P = 0.762 NS | | | | | |

**NS= not significant**, S=significant, HS=highly significant

The study found that the age groups of 56–65 years accounted for 42 (42.0%) of the total cases in both categories, with 34 (34.0%) cases falling into the 66–75-year bracket. Both groups included patients with ages ranging from 45 to 75. However, the mean ages of the diabetic group (group A) and the non-diabetic group (group B) did not vary significantly (P>0.05).




**Graph No. 1: Multiple bar diagram showing age wise distribution of patients**

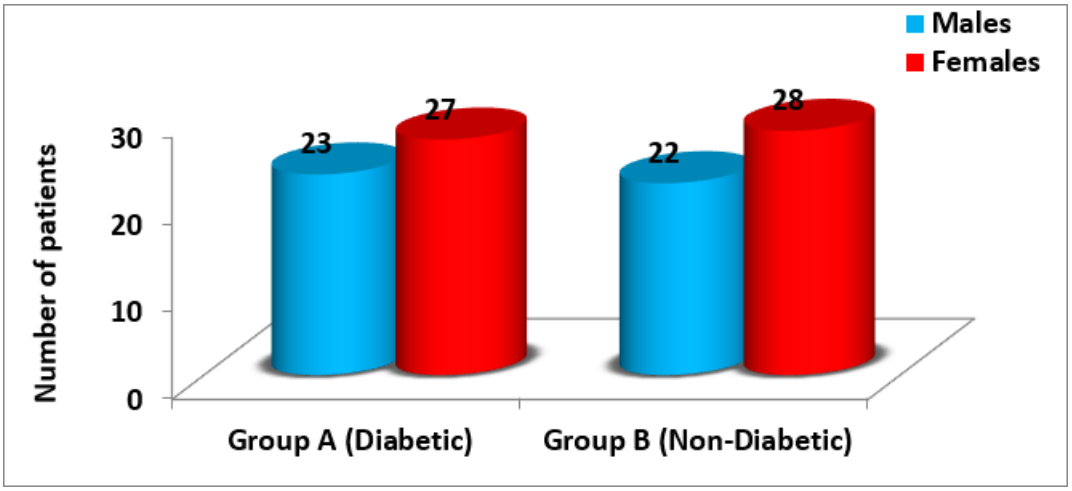
**Table No.2: Gender wise distribution of patients**

| Gender | Group A (Diabetic) | | Group B (Non-Diabetic) | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Males | 23 | 46.0 | 22 | 44.0 | 45 | 45.0 |
| Females | 27 | 54.0 | 28 | 56.0 | 55 | 55.0 |
| Total | 50 | 100.0 | 50 | 100.0 | 100 | 100.0 |
| $\chi 2$ –Test value, P-value | $\chi 2 = 0.042$, P = 0.913, NS | | | | | |

**NS= not significant**, S=significant, HS=highly significant

Results showed that there were 27 female patients (54.0%) in Group-A (Diabetic) and 28 female cases (56.0%) in Group-B (Non-Diabetic), with 23 male cases (46% of the total) in Group-A and 22 male cases (44.0%) in Group-B, respectively.

A comparison of the gender distributions in Group A (Diabetic) and Group B (Non-Diabetic) revealed no statistically significant difference (P>0.05).




**Graph No 2: Bar diagram showing gender wise distribution of patients**

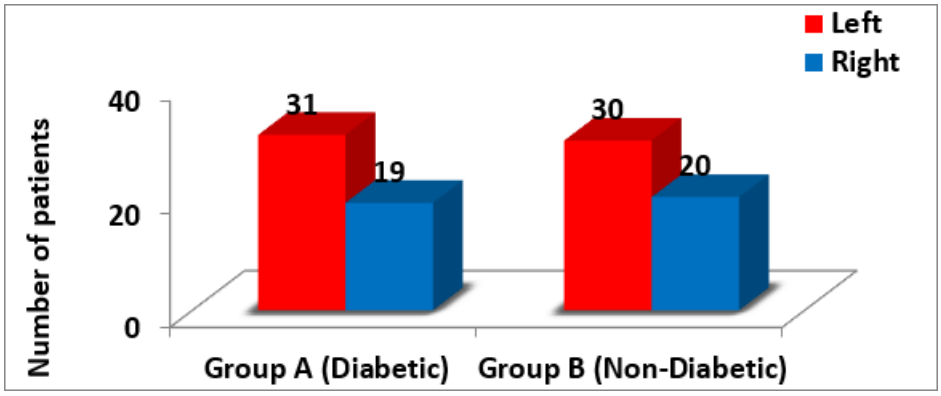
**Table No.3: Distribution of patients according to side of the treatment**

| Side of treatment | Group A (Diabetic) | | Group B (Non-Diabetic) | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Left | 31 | 62.0 | 30 | 60.0 | 61 | 61.0 |
| Right | 19 | 38.0 | 20 | 40.0 | 39 | 39.0 |
| Total | 50 | 100.0 | 50 | 100.0 | 100 | 100.0 |
| $\chi 2$ –Test value, P-value | $\chi 2 = 0.135$, P = 0.895, NS | | | | | |

**NS= not significant**, S=significant, HS=highly significant

Out of 100 patients, 31 (62.0%) had diabetes and 30 (60.0%) did not; 19 (38.0%) had diabetes and 20 (40.0%) did not get treatment for their right eye.

In terms of treatment side distribution, Group A (Diabetic) and Group B (Non-Diabetic) did not vary significantly (P>0.05).



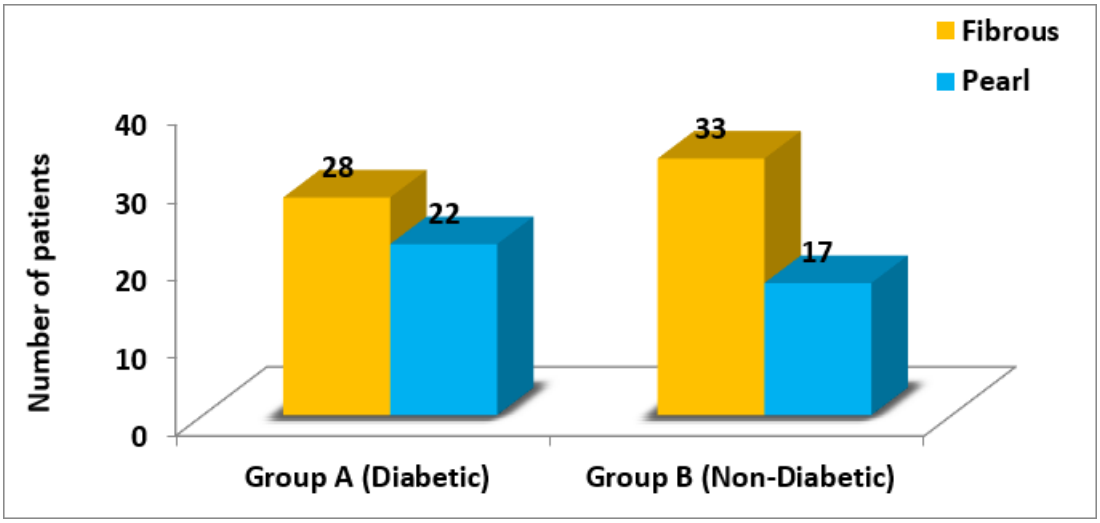

**Graph No 3: Multiple bar diagram showing Distribution of patients according to side of the treatment**

**Table No.4: Distribution of patients according to grade and type of PCO**

| Type of PCO | Group A (Diabetic) | | Group B (Non-Diabetic) | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Fibrous | 28 | 56.0 | 33 | 66.0 | 61 | 61.0 |
| Pearl | 22 | 44.0 | 17 | 34.0 | 39 | 39.0 |
| Total | 50 | 100.0 | 50 | 100.0 | 100 | 100.0 |
| χ2–Test value, P-value | χ2 = 1.054, P = 0.719, NS | | | | | |

**NS= not significant**, S=significant, HS=highly significant

In 28 instances (56.0%) of diabetic PCO and 33 cases (66.0%) of non-diabetic PCO, fibrous type was detected. In contrast, 24 cases (44.0%) involving diabetics and 17 cases (34.0%) involving non-diabetics had the Pearl type of PCO. Differences in PCO distribution between Group A (Diabetic) and Group B (Non-Diabetic) were not statistically significant (P>0.05).



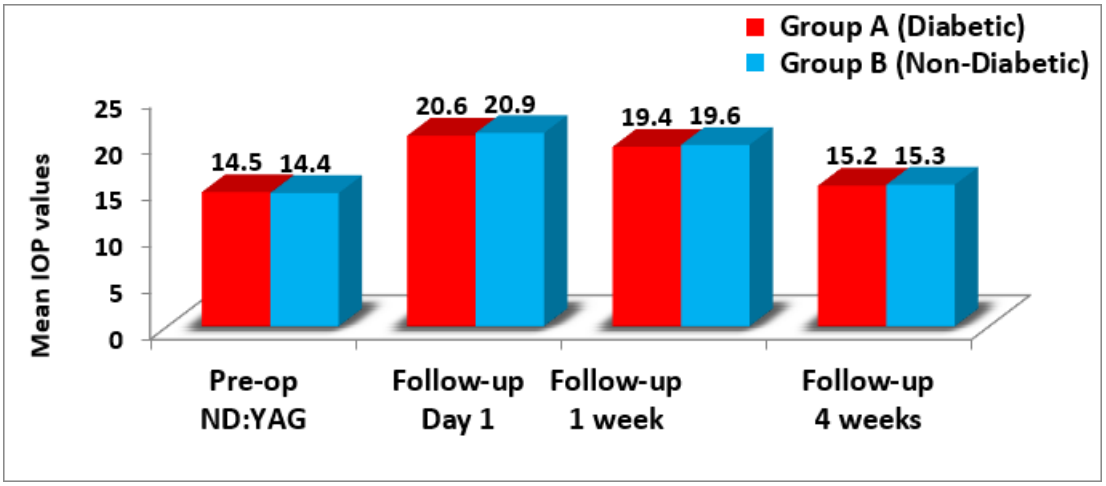

**Graph No 4: Multiple bar diagram showing distribution of patients according to grade and type of PCO**

**Table No.5: Comparison of Intraocular Pressure (IOP) between the groups**

| Intraocular Pressure | Group A (Diabetic) | Group B (Non-Diabetic) | Paired t-test, P-Value & significance |
|---|---|---|---|
| | Mean ± SD | Mean ± SD | |
| Pre-op ND: YAG | 14.46 ± 2.59 | 14.40 ± 2.52 | t = 0.117, P = 0.907, NS |
| Follow-up Day 1 | 20.60 ± 2.25 | 20.86 ± 2.90 | t = 0.500, P = 0.618, NS |
| Follow-up 1 week | 19.40 ± 2.46 | 19.56 ± 4.16 | t = 0.234, P = 0.616, NS |
| Follow-up 4 weeks | 15.18 ± 2.15 | 15.32 ± 3.47 | t = 0.243, P = 0.809, NS |

**NS= not significant**, S=significant, HS=highly significant

Study found that there was no significant difference in the mean intraoperative pressure (IOP) between Group A (Diabetic) and Group B (Non-Diabetic) at any of the following time points: pre-op ND:YAG, follow-up day 1, follow-up week, and follow-up four weeks (P>0.05). There is no correlation between the patient's diabetes or non-diabetic condition and the pattern of IOP change.



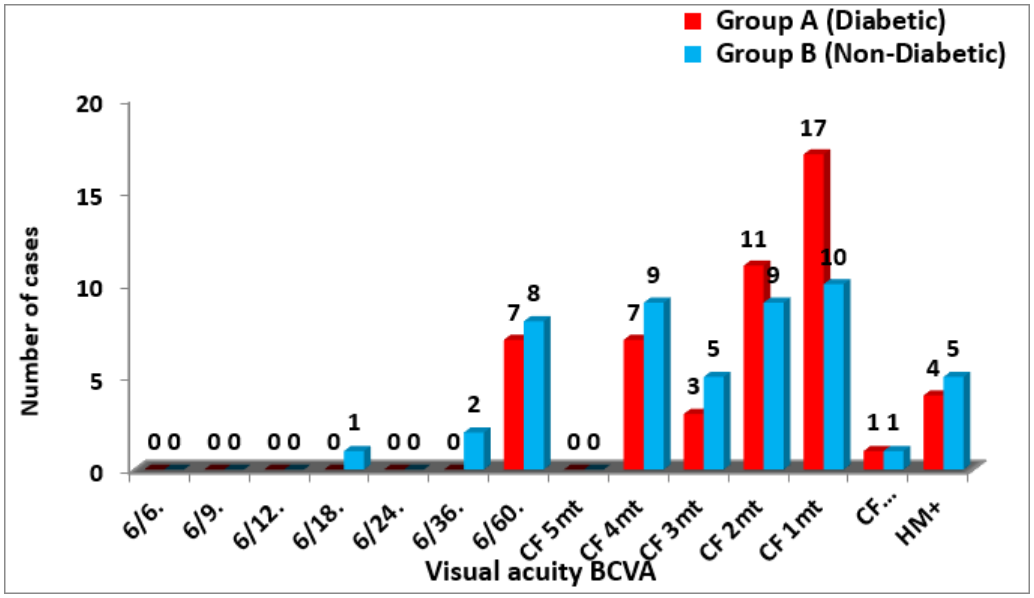

**Graph No 5: Multiple bar diagram showing comparison of IOP between the groups.**

**Table No.6: Comparison of visual acuity Pre ND: YAG capsulotomy between group A and B**

| Visual acuity | Group A (Diabetes) | | Group B (Non-Diabetes) | |
|---|---|---|---|---|
| | Number | Percentage | Number | Percentage |
| 6/6 | 0 | 0.0 | 0 | 0.0 |
| 6/9 | 0 | 0.0 | 0 | 0.0 |
| 6/12 | 0 | 0.0 | 0 | 0.0 |
| 6/18 | 0 | 0.0 | 1 | 2.0 |
| 6/24 | 0 | 0.0 | 0 | 0.0 |
| 6/36 | 0 | 0.0 | 2 | 4.0 |
| 6/60 | 7 | 14.0 | 8 | 16.0 |
| CF 5mt | 0 | 0.0 | 0 | 0.0 |
| CF 4mt | 7 | 14.0 | 9 | 18.0 |
| CF 3mt | 3 | 6.0 | 5 | 10.0 |
| CF 2mt | 11 | 22.0 | 9 | 18.0 |
| CF 1mt | 17 | 34.0 | 10 | 20.0 |
| CF 1/2mt | 1 | 2.0 | 1 | 2.0 |
| HM+ | 4 | 8.0 | 5 | 10.0 |
| Total | 50 | 100.0 | 50 | 100.0 |
| Fisher Exact test | P= 0.315, NS | | | |

**NS= not significant**, S=significant, HS=highly significant

Results showed that neither Group A (Diabetic) nor Group B (non-diabetic) had significantly different baseline corrected visual acuity (BCVA) at pre-operative ND:YAG (P>0.05).



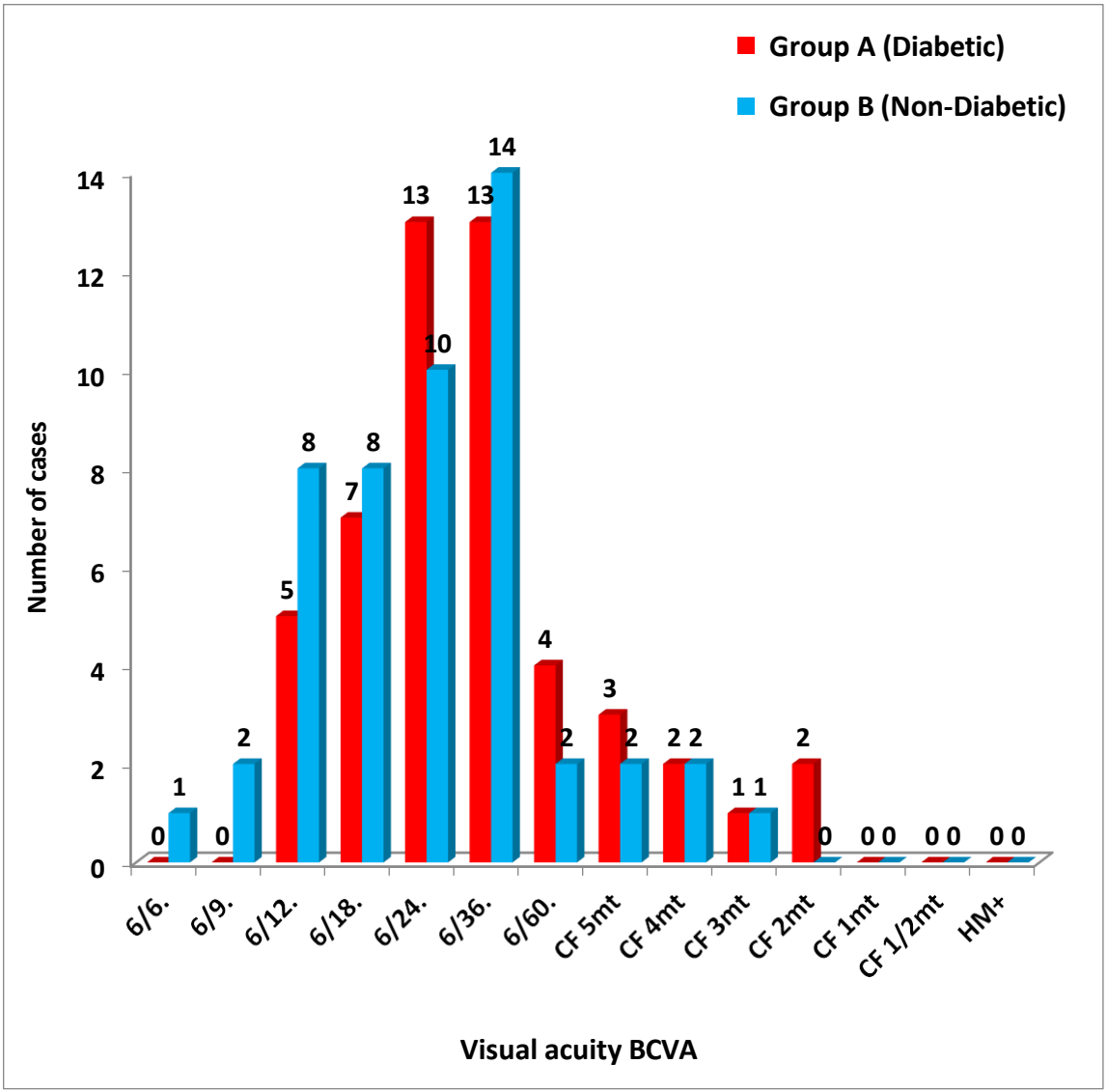

**Graph No 6: Multiple bar diagram showing comparison of visual acuity Pre ND:YAG** capsulotomy **between group A and B**

**Table No.7: Comparison of BCVA at follow up day 1 between group A and B**

| Visual acuity | Group A (Diabetes) | | Group B (Non-Diabetes) | |
|---|---|---|---|---|
| | Number | Percentage | Number | Percentage |
| 6/6 | 0 | 0.0 | 1 | 2.0 |
| 6/9 | 0 | 0.0 | 2 | 4.0 |
| 6/12 | 5 | 10.0 | 8 | 16.0 |
| 6/18 | 7 | 14.0 | 8 | 16.0 |
| 6/24 | 13 | 26.0 | 10 | 20.0 |
| 6/36 | 13 | 26.0 | 14 | 28.0 |
| 6/60 | 4 | 8.0 | 2 | 4.0 |
| CF 5mt | 3 | 6.0 | 2 | 4.0 |
| CF 4mt | 2 | 4.0 | 2 | 4.0 |
| CF 3mt | 1 | 2.0 | 1 | 2.0 |
| CF 2mt | 2 | 4.0 | 0 | 0.0 |
| CF 1mt | 0 | 0.0 | 0 | 0.0 |
| CF 1/2mt | 0 | 0.0 | 0 | 0.0 |
| HM+ | 0 | 0.0 | 0 | 0.0 |
| Total | 50 | 100.0 | 50 | 100.0 |
| Fisher Exact test | P= 0.183, NS | | | |

**NS= not significant**, S=significant, HS=highly significant

At the one-day follow-up, there was no statistically significant difference in best corrected visual acuity (BCVA) between the diabetic and non-diabetic groups (P>0.05), according to the study.




**Graph No 7: Multiple bar diagram showing comparison of BCVA at follow up day 1 between group A and B**

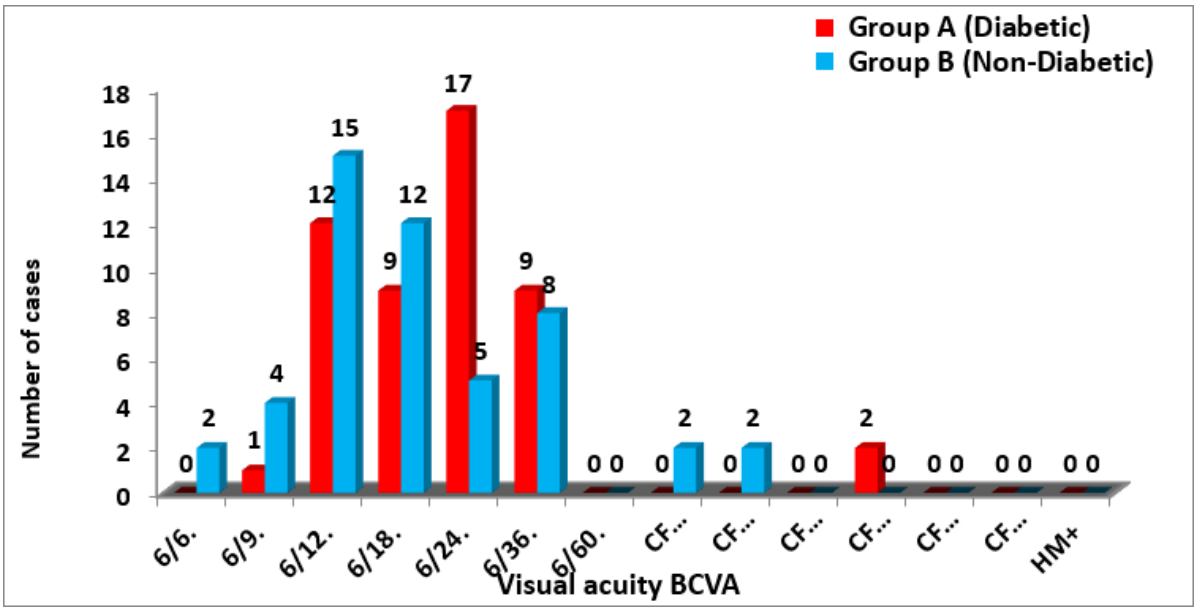
**Table No.8: Comparison of BCVA at follow up 1 week between group A and B**

| Visual acuity | Group A (Diabetes) | | Group B (Non Diabetes) | |
|---|---|---|---|---|
| | Number | Percentage | Number | Percentage |
| **6/6** | 0 | 0.0 | 2 | 4.0 |
| **6/9** | 1 | 2.0 | 4 | 8.0 |
| **6/12** | 12 | 24.0 | 15 | 30.0 |
| **6/18** | 9 | 18.0 | 12 | 24.0 |
| **6/24** | 17 | 34.0 | 5 | 10.0 |
| **6/36** | 9 | 18.0 | 8 | 16.0 |

| | | | | |
|---|---|---|---|---|
| **6/60** | 0 | 0.0 | 0 | 0.0 |
| **CF 5mt** | 0 | 0.0 | 2 | 4.0 |
| **CF 4mt** | 0 | 0.0 | 2 | 4.0 |
| **CF 3mt** | 0 | 0.0 | 0 | 2.0 |
| **CF 2mt** | 2 | 4.0 | 0 | 0.0 |
| **CF 1mt** | 0 | 0.0 | 0 | 0.0 |
| **CF 1/2mt** | 0 | 0.0 | 0 | 0.0 |
| **HM+** | 0 | 0.0 | 0 | 0.0 |
| **Total** | 50 | 100.0 | 50 | 100.0 |
| **Fisher Exact test** | **P= 0.384, NS** | | | |

**NS= not significant**, S=significant, HS=highly significant

At the one-week follow-up, there was no statistically significant difference in best corrected visual acuity (BCVA) between the diabetic and non-diabetic groups (P>0.05), according to the study.




**Graph No 8: Multiple bar diagram showing comparison of BCVA at follow up 1 week between group A and B**

**Table No.09: Comparison of BCVA at follow up 4 weeks between group A and B**

| Visual acuity | Group A (Diabetes) | | Group B (Non-Diabetes) | |
|---|---|---|---|---|
| | Number | Percentage | Number | Percentage |
| 6/6 | 0 | 0.0 | 3 | 6.0 |
| 6/9 | 3 | 6.0 | 4 | 8.0 |
| 6/12 | 12 | 24.0 | 19 | 38.0 |
| 6/18 | 16 | 32.0 | 11 | 22.0 |
| 6/24 | 13 | 26.0 | 9 | 18.0 |
| 6/36 | 4 | 8.0 | 4 | 8.0 |
| 6/60 | 0 | 0.0 | 0 | 0.0 |
| CF 5mt | 0 | 0.0 | 0 | 4.0 |
| CF 4mt | 0 | 0.0 | 0 | 4.0 |
| CF 3mt | 0 | 0.0 | 0 | 2.0 |
| CF 2mt | 2 | 4.0 | 0 | 0.0 |
| CF 1mt | 0 | 0.0 | 0 | 0.0 |
| CF 1/2mt | 0 | 0.0 | 0 | 0.0 |
| HM+ | 0 | 0.0 | 0 | 0.0 |
| Total | 50 | 100.0 | 50 | 100.0 |
| Fisher Exact test | P= 0.274, NS | | | |

**NS= not significant**, S=significant, HS=highly significant,

Results showed no statistically significant change in best corrected visual acuity (BCVA) between the diabetic and non-diabetic groups at the 4-week follow-up (P>0.05).

## V. DISCUSSION

PCO, or post-cataract opacity, is the leading cause of delayed post-operative complications in unsuccessful cataract surgeries. The prevalence of extra capsular procedures such as phacoemulsification and SICS has led to advancements in PCO prevention and treatment. A posterior capsule discission is the surgical method of choice for treating posterior capsule opacification.46 Being an intraocular operation and requiring a surgical incision increases the likelihood of problems.

The use of pulsed Nd:YAG lasers has completely altered the way PCO membranes are approached. In contrast to surgical discission, laser capsulotomy is a non-invasive outpatient surgery (OPD) that only takes a few minutes and does not hurt the patient. It also has the further advantage of not having endophthalmitis as a possible consequence.

The most prevalent, though often temporary, consequence after Nd:YAG laser capsulotomy is elevated intraocular pressure.

The intraocular pressure of all 100 patients who had laser capsulotomy increased at one day (mean value - 20.75 mm hg) and one week (mean value - 19.48 mm hg), according to our research. When comparing the groups with and without diabetes, there was no statistically significant difference in the mean intraocular pressure (IOP) at pre-Nd:YAG, 1 week, and 4 weeks of follow-up (P>0.05).

One hour after the capsulotomy, 7.2% of patients in a study by Lin J C et al. had an intraocular pressure (IOP) increase of 5 mm Hg or more.47. About 10% to 40% of people may have a temporary increase in intraocular pressure (>5 mmHg) in the first post-capsulotomy phase.Numbers 48 and 49.Among the eyes examined in a different research, 41% had an increase in intraocular pressure over 30 mmHg, and 14% saw an increase beyond 40 mmHg.

Compared to eyes that did not undergo capsulotomy, those that did showed much greater changes in intraocular pressure (IOP) at each time interval after the procedure, according to research51 by Ge J and colleagues. There was a statistically significant correlation between the IOP rise one hour after the capsulotomy and the long-term IOP increase (P =.001). In contrast to the untreated eye, which had an average intraocular pressure rise of +0.7 ± 3.5 mm Hg in the first 24 hours following treatment, another study52 found that the treated eye had an average intraocular pressure increase of 12.0 ± 6.9 mm Hg from a baseline value of 17.7 mm Hg.Different research has shown that between fifteen percent and sixty-seven percent of eyes have intraocular pressure increases higher than ten millimetres of mercury. from 27 to 30

On average, the diabetes group used 45.45 mJ of total energy, whereas the non-diabetic group used 45.35 mJ, according to our research. Statistical analysis revealed no discernible difference between the two sets of data. There was a modest positive link between the increase in IOP and total energy utilised in our research, however the coefficient of correlation was not statistically highly significant. On average, 48.3 mJ of energy was used by each treatment in a research by Channel MM and colleagues 53. For weeks after surgery, intraocular pressure (IOP) in some eyes remained over 10 mm Hg higher than before. Energy levels rose in correlation with increasing stresses.

A patient's intraocular pressure (IOP) rose dramatically from 20 mm Hg before laser treatment to 42 mm Hg during the first week of follow-up in our research. She was given a 0.5% dose of timolol and monitored regularly. At 4 weeks, her intraocular pressure was 32 mm Hg. Her doctor recommended that she visit a glaucoma clinic for further monitoring and treatment.

The visual result after laser capsulotomy was the second criterion that was examined in our research. Our study's 100 participants all reported an increase in visual acuity after the operation. Prior to laser treatment, 82% of patients had a visual acuity of less than 4 mt. The percentage of patients whose visual acuity improved to more than 6/60 after one day was 87%, and after one week it was 94%. Additional improvement occurred after one month, with 68% of patients achieving a visual acuity of more than 6/18. It was clear that many patients saw an improvement in their eyesight during the first day and week of capsulotomy, and this improvement was much more pronounced following the fourth week. This shows that optical correction may enhance the visual benefits of Nd:YAG capsulotomy in PCO, which lasts for one month after the treatment.

Consistent with previous research, this one shows an increase in visual quality. A total of 31 patients had pre-capsulotomy vision of 6/60 or worse, and 26 individuals improved to 6/6 or better, according to research by Uddin MG.53 After laser capsulotomy, 85.9% of patients showed improvement in visual acuity, with a score of > 6/12, according to a study by Hossain AM et al.54

As part of a long-term research55 conducted at Dhaka's Combined Military Hospital (CMH) laser unit 36% of 500 patients had pre-capsulotomy visual acuity between 6/36 and 6/60, 32% had 6/18 to 6/24, 18% had less than 6/60, and 14% had 6/12 on the eye chart after 500 eyes had Nd:YAG laser capsulotomy treatment over 2.5 years. Results showed that 76% of patients achieved a 6/12 or better after seven days of capsulotomy. After 30 days of optical correction, 80% of patients achieved a 6/12 visual acuity.

Even after a successful laser capsulotomy, some individuals still do not achieve 6/6 vision. The presence of undiagnosed ocular conditions such as amblyopia, cystoids macular edoema, ischemic optic neuropathy, or age-related macular degeneration might be to blame for this.

The visual result was compared between the two groups in our investigation. At the end of one day, 24% of diabetes patients and 20% of non-diabetic patients had visual acuity of > 6/12, and at the end of one week, 26% of diabetic patients and 42% of non-diabetic patients had the same. After four weeks, 52% of individuals

without diabetes had a BCVA of 6/12 or higher, compared to 30% of diabetic patients. In contrast to diabetes, non-diabetics had a superior visual prognosis. This may be linked to alterations in diabetic retinopathy.

The transition from CF 1mt to CF 2mt was very unsuccessful for two of our diabetic patients. In both cases, diabetic maculopathy was present.

## VI. CONCLUSION

- Improved vision was seen in every single patient treated for PCO with Nd:YAG laser capsulotomy.
- After four weeks, the results were better visually (41% had > 6/12), compared to the first week (34% had the same) and first day (16% had the same).
- After four weeks, the visual result was better in the non-diabetic group (52% had > 6/12) than in the diabetes group (30%).
- After a day and a week of follow-up, all of the patients' intraocular pressure (IOP) levels returned to normal, or very close to them, after four weeks.
- Both groups showed a comparable pattern of change in intraocular pressure (IOP).
- Both groups used the same amount of laser energy, and there was no discernible variation in the overall number of spots.

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