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ORIGINAL ARTICLE

POSTERIOR CAPSULAR OPACIFICATION INCIDENCE AND PATTERN IN KASHMIR VALLEY

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ABSTRACT: AIM: To obtain an estimate of the incidence and pattern of posterior capsular opacification (PCO) in Kashmiri population. **METHODS:** The present cross-sectional, prospective study was conducted in the Department of Ophthalmology, Government Medical College, Srinagar from January 2005 to January 2006. 500 eyes of 500 patients were included in the study (287 males and 213 females). Cases of cataract surgery performed in the department of ophthalmology, SMHS Hospital, except those to be excluded after 3-12 months following cataract surgery. Posterior capsular opacification was diagnosed by using slit lamp bio-microscopy and direct ophthalmoscopy with dilated pupil. **RESULT:** The overall incidence of PCO within one year of follow up was found to be 18.4% (92 eyes). In 0-10years age group 79.17% of cases developed PCO followed by 70% in 11 to 20 years age group and 50% in 21-30 years age group. Diabetes mellitus and pseudo-exfoliation syndrome were not found to significantly affect the development of PCO within one year postoperative period. Intraocular lens (IOL) of 6mm optic size was seen to be associated with less PCO as compared to IOL of 5.25mm optic size (p=0.012). No significant difference in PCO was found between phaco-emulsificatiion and conventional extracapsular cataract extraction (ECCE)/small incision cataract surgery (SICS), (P = 0.397). 60.87% of PCO was of fibrous variety while Elschnig's pearl were seen in 16.30% cases. Out of 92 eyes with PCO, grade 1+ PCO was seen in 55.47% patient while only 9.78% cases had grade 3+ PCO which required capsulotomy.

KEYWORDS: Posterior capsular opacificatiion, slit lamp biomicroscopy, intraocular lens.

INTRODUCTION: The problem of posterior capsular opacification has not yet been conquered. It is the most common and significant visually disabling consequence of modern cataract surgery and has important medical, social and economic implications.[1]

Lens capsule is produced continuously throughout life and is the thickest basement membrane of the body, generated anteriorly by basal membranes of lens epithelium and posteriorly by basal membranes of elongating fibre cells.[2]

After extracapsular cataract extraction, there remain posterior capsule, residual epithelial cells and the cortical fibres that were not removed at the time of surgery. The lens epithelial cells still possess the capacity to proliferate, differentiate and undergo fibrous metaplasia. Migration of lens epithelial cells towards the centre of posterior capsule is thought to involve the intermediate filament, actin and myosin. Growth factor present in both aqueous and vitreous humors have also been implicated in development of PCO. These include acidic and basic fibroblast growth factors, insulin like growth factor-I, epidermal growth factor and platelet derived growth factor.[3]

With all the extracapsular techniques including phacoemulsification opacification of the posterior capsule is most common long term complication and likely to be the most common cause of non-refractive decrease in postoperative vision.[4]

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MATERIAL AND METHODS: The present cross-sectional, prospective study was conducted in the Postgraduate Department of Ophthalmology Shri Maharaja Hari Singh Hospital, Government Medical College which is a tertiary level eye care centre in J&K to obtain an estimate of the incidence, pattern and grading of PCO in Kashmiri population. The study was conducted fromJanuary 2005 to January 2006.

Inclusion Criteria:

- Cases of cataract surgery performed in the Department of Ophthalmology, Government Medical College Srinagar, except those to be excluded after 3-12 months following cataract surgery.

Exclusion Criteria:

- Intracapsular cataract extraction (ICCE).
- Intraoperative posterior capsular opacification.
- Cataract surgery with anterior chamber intraocular lens (IOL).
- Posterior capsular rupture.
- Postoperative endophthalmitis.

Based on the prevalence/incidence of PCO, sample size was calculated at 5% risk with 10% allowable error which is equal to 500. Data was collected using a predesigned proforma including age, sex, date of surgery, surgical techniques, intra and postoperative complication, presence and absence of PCO intra-operatively and after 3-12 months of surgery. Complete ocular examination was done after three months with vision, refraction, retinoscopy and direct ophthalmoscopy.

Posterior capsule was examined with slit lamp biomicroscopy and graded with direct ophthalmoscopy using a standardized grading system.[5]

A) Grade 0 : Clear posterior capsule.
B) Grade 1+ : Not visible on torch light but seen with slit lamp.
C) Grade 2+ : Visible on torch light, but fundus details seen or dense opacification/plaque covering 1/3rd to 2/3rd of posterior capsule.
D) Grade 3+ : Dense pearly white capsule, fundus details indistinct or, dense opacification/plaque covering more than 2/3rd of posterior capsule.

The analysis of the data was performed on statistical package for social (SPSS Version 10.0). Desired tabulation data analysis and standard test of significance including chi-square test have been applied.

RESULTS: 500 eyes of 500 patients who underwent cataract extraction (phacoemulsification or conventional ECCE) were included. Mean age of patients was 52.6 years + 35.14, (maximum age 76 years, minimum age 3 years). The cohort included 287 (57.40%) males and 213 (42.16%) females.

Of the total 500 patients, 92 developed PCO. Out of 24 patients 19 (79.17%) cases of PCO were observed in 0-10years age group which was followed by 70% (7/10) in 11-20 years age group and 50% (17/34) years in 21-30 age groups respectively.

Minimum number of PCO cases were in the age group of 51-60 years and >60 years. Statistically, this difference was significant (p = 0.000) (Table 1).

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Statistically, a significant difference (p=000) was observed in types of cataract with respect to cases presenting with PCO.

86.96% cases of PCO were seen in patients who underwent cataract surgery for congenital/developmental cataract, 43.30% in traumatic cataract, whereas only 9.07% cases who underwent cataract surgery for senile cataract presenting with PCO (Table 2).

18.89% of patients who underwent ECCE/SICS presented with PCO as compared to 14.00% of those who underwent phacoemulsification. Statistically, the difference between the two operative procedures is insignificant (p=0.397) (Table 3).

Patients receiving IOLs of the two different optic sizes (5.25mm and 6.00mm respectively) were equally distributed. 23.20% of 250 patients who had IOL of optic size 5.25mm developed PCO as against 14.4% who received IOL of 6.00mm optic size (n=250). The difference between the two groups was statistically significant (p = 0.012) (Table 4).

Out of total 500 patients (n), 476 (95.2%) were non-diabetic and 24 (4.8%) were diabetic. Out of 476 non-diabetics, 87 (18.28%) developed PCO while 5 (20.83%) of 24 diabetics developed PCO.

The statistical difference between the two groups is insignificant (p =.754) (Table 5).

The percentage of eyes with PEX syndrome presenting with PCO is 21.25% as compared to 17.06% eyes without PEX syndrome. The difference between the two groups is statistically not significant (p=029) (Table 6).

Statistically, a significant difference (p = 0.000) was observed in patterns of PCO. Out of 92 cases of PCO, 60.87% cases were fibrous variety and only 3.26% cases were Soemmerring's ring (Table 7).

Out of 500 (n) patients studied, 408 (81.60%) had Grade 0 (clear posterior capsule) and 92 (18.4%) had PCO of varying grades. Out of 92 eyes with PCO, 51 (55.47%) had Grade 1+ PCO, 32 (34.78%) Grade 2+ and 9 (9.78%) had Grade 3+ PCO respectively. It was statistically significant (p = 0.000) (Table 8).

DISCUSSION: Posterior capsular opacification (PCO) or "secondary cataract" is the most common long term complication of modern extra-capsular cataract surgery techniques and likely the most common cause of non-refractive decrease postoperative vision.[4]

During one year period (January 2005 to January 2006), 2210 cataract surgery were performed in Department of Ophthalmology among whom 1658 (75.03%) were extracapsular cataract extraction and 552 (24.97%) were phacoemulsification.

In our study, 500 eyes were included, of which 450 (90%) cases underwent conventional extracapsular cataract extraction with posterior chamber intraocular lens (polymethymethacrylate) implantation and 50 (10%) cases underwent phacoemulsification with posterior chamber intraocular lens implantation (polymethymethacrylate).

The mean age of study population was 52.6 years with the highest number of patients in age group of 61 to 70 years. There is a slight predominance of male patients (57.5%) as compared to the female patients (42.5%).

Majority of the patients in our study had age related/ senile cataract (75%). 12% of the patients had cataract following trauma and comprised mainly of younger age group and male gender, the probable reason being more outdoor and sport activities.

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Out of 500 patients, 24 patients (4.8%) had diabetes mellitus (both NIDDM and IDDM included), 160 (32%) had pseudoexfoliation syndrome along with cataract.

In our study, the surgeries were performed by different surgeons and different operative techniques (ECCE or phaco). The overall incidence of PCO within one year follow up was found to be 18.4%.

This finding in our study is in agreement with the findings of Arthur W. Allen et al[6] who found an incidence of 18.75%.

However the study findings does not agree with the meta-analysis finding of Debra et al[4], who found an overall incidence of 11.8% from pooled data published between 1979 to 1996.

The higher incidence in our study (18.4%) could be explained on the basis of less sample size compared to the meta-analysis pooled data, as well as on the basis of highly developed technology and expertise in the developed countries.

In our study, the majority of patients presenting with posterior capsule opacification belonged to 0-10 years age group 79.17% (19/24) followed by 70% (7/10) in 11-20 years age group.

This finding in our study is in agreement with the results of Kalpana et al who found an overall incidence of PCO of 74% in the age group of 0-10 years (77% in 3-5 years, 71% in the age group of 6-10 years).[7]

Lam A et al found an incidence of 74% in the age group of 0-15 years.[8] In comparison with adult eyes, pediatric eyes have greater elasticity of the capsule, lower scleral rigidity and mitotically active lens epithelial cells, leading to higher incidence of PCO in this age group.[9]

The incidence of PCO in the age group of 21-30 years was found to be 50% (17/34) in our study. Moreover incidence of trauma related eyes problems were seen to be higher in this age group which explains the higher incidence of PCO in this age group.

The overall incidence of PCO in different age groups showed a decline with increasing age in our study with the incidence of 79.1% in the age group of 0-10 years, 50% in 20-30 years. A significant decrease is further observed in the age group of 50-60 years (13.57%) and 6.81% in the age group of > 60 years.

A similar results were reported by Karaczewicz D et al[10] who observed that incidence of PCO in young patients under 40 years was 29.7%, 7.8% in patients aged 41-55 years and 5.1% in patients older than 55 years which is consistent with our study.

Another study conducted by Joseph Moisseiev et al[11] found higher incidence in younger patients (70% for < 40 years of age) as compared to 37% in patients >40 years of age. The decrease in incidence with increasing age is consistent with the result seen in our study.

Out of 500 patients (100%), 375 (75%) had senile cataract. Out of the 375 cases of senile cataract included in this study, 34 (9.07%) developed posterior capsular opacification at one year follow up. The results are similar to the study conducted by Karczewicz D et al[10] who reported an incidence of 5.1% of posterior capsule opacification in this age group.

A study conducted to identify long term complication of extra-capsular cataract at National Eye Centre, Nigeria[12] reported the incidence of PCO to be 7% at one year which is again consistent with our study.

Out of 23 cases with congenital development cataract, 20 (86.96%) developed posterior capsular opacification within one year postoperatively. This is similar to findings of Namrata et al who reported an incidence of 87.2% cases[13]. This again would be attributed to higher mitotic activity

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of the lens epithelial cells in pediatric age group.

In our study, out of 60 eyes with traumatic cataract, 26 (43.30%) developed posterior capsular opacification of varying grades within one year. The findings in the study done by Ahmad B, Sadiq S et al[14] reported an incidence of posterior capsular opacification to be 22% which is lower than that seen in our study. Probable reason behind this can be the follow up period which was 6 months in the study done by Ahmad B et al but was one year in our study.

Valentine Lacmanovic et al[15] reported incidence of PCO in 24 eyes with traumatic cataract to be 16.6%. The lower incidence seen in this study as compared to our study may be attributed to better technology and better expertise in handling trauma in developed countries.

Among the surgical procedure, the incidence of posterior capsular opacification seen in ECCE was 18.89% and 14.0% in phacoemulsification. The incidence though higher in ECCE was statistically not significant (p=0.397).

A study conducted by D.C. Minassian et al[16] found the incidence to be 29% (68/232) in ECCE and 20% (48/245) concluding that phacoemulsification is a better operative procedure.

Another study by J.G.F. Dowler et al[17] also found similar results i.e. 11% of PCO in phacoemulsification and 35% in ECCE respectively.

The probable reason for higher incidence of PCO following phacoemulsification in our study could be attributed to less number of cases who underwent phaco (n=50 of 500 cases) and also the studied subjects belonged to different age groups and had cataract of different etiologies. While in above mentioned studies, the age in the study population was much higher than our study and only senile cataract cases were included in their study.

In our study, the incidence of posterior capsular opacification was higher in the eyes that received IOL of 5.25mm optic size (23.20%) than those which received IOL of 6.0mm optic size (14.40mm). This finding is similar to the study conducted by William R. Meacok et al[18] who found the incidence to be low (1.5%) in the 6.0mm group as compared to 5.5mm group (6, .9%) at 1 year with Acrysof intraocular lens.

Similar findings were seen in the study done by Manfred Tetz et al[19] who found significantly higher incidence of PCO with PMMA IOL of smaller optic size than with large optic sized PMMA IOL. This may be due to the fact that larger optic applies greater peripheral pressure against posterior capsule and creates a barrier for LECs migration as compared to small optic.

In our study, out of 24 eyes of diabetic patients, 5 developed PCO (20.83%) as compared to 87 (18.28%) of 476 non-diabetics. Though, slightly higher but the difference was insignificant (p = 0.754). In a comparative study between diabetics and non-diabetics who underwent cataract surgery conducted by K. Hayashi et al[20], who found that in PCO incidence was statistically insignificant up to 12 months after surgery. However, at 18 months and later, PCO values in diabetic group increased substantially.

Similar results were seen in study conducted by A. Ionides, J.G.F. Dowler et al.[21] who found no overall difference in the incidence of posterior capsular opacification between diabetics (28%) and non-diabetics (18%).

Among 160 patients who had cataract along with pseudoexfoliation, 34 (21.25%) developed PCO as against 58 out of 340 (17.06%) without pseudoexfoliation (p = 0.259).

This is similar to the study conducted by Michael Kuchle et al.[22] They found the incidence rate between the two groups to be statistically insignificant at the end of one year follow up (5% and 7%

respectively). On further follow up, the difference became significant with higher incidence seen in eyes with pseudoexfoliation syndrome.

Out of 92 eyes with PCO, 56 (60.90%) eyes had fibrous type of posterior capsular opacification in our study followed up by 15 (16.30%) eyes with Elschnig's pearls. This is similar to the findings reported by Nagamoto and associate[23] who reported higher incidence of fibrosis type of PCO and reported it in every postoperative period. Elschnig's pearls were reported late in postoperative period (months to years).

A pilot study by Sanjoy Chowdhary et al[24] who reported higher incidence (13%) of fibrosis type of PCO as compared to pearl type of PCO (1.5%) which is consistent with our study.

Similar findings have been reported by K. Hayashi et al[25] who reported incidence of capsular fibrosis more in early postoperative period.

Out of 500 eyes in our study, 408 had Grade 0 (clear posterior capsule) and 92 had PCO of varying grades. Out of 92 (100%), Grade 1+ PCO was seen in 51 (55.47%) cases and Grade 3+ opacification which required capsulotomy was observed in 9 (9.78%) of patients. This finding in our study agrees with the findings of Prajna N. V. et al[26] who found similar results in 1, 474 patients at 1 year follow up. In their study, 1207 (81.9%) had Grade 1, 27 (8.6%) had Grade 2 and Grade 3 posterior capsular opacification was seen in 7 (0.5%) eyes, one year after surgery.

CONCLUSION: In our study in Kashmir valley, younger age group was found to be a significant risk factor for PCO development ($p = 0.000$). Congenital developmental and traumatic etiologies of cataract ($p = 0.000$) were found to be significant factors contributing in development of PCO. Diabetes mellitus and pseudoexfoliation syndrome were not found to significantly affect the development of PCO within one year postoperative period ($p = 0.754$ and $p = 0.259$ respectively). IOL of 6mm optic size was seen to be associated with less PCO as compared to IOL of 5.25mm optic size ($p=0.012$).

No significant difference was found between ECCE and phacoemulsification ($p = 0.397$). Sample size for phaco included in our study was small. Thus it requires further indepth study. 60.87% of PCO was of fibrous variety and was seen in early postoperative period while Elschnig's pearls were seen in 16.3% of cases. Out of 92 eyes Grade 1+ PCO was seen in 55.47% patients while only 9.78% had grade 3+PCO which required laser capsulotomy.

Our study provides an overall estimate of the incidence and pattern of PCO in Kashmir valley, and it also explores some of the factors that might influence rate of PCO development. Patient characteristics, surgical techniques and research designs may account for some of variability in reported rates. More precise estimates of incidence and pattern of PCO will depend upon the development of a standardized measurement of PCO.

BIBLIOGRAPHY:

1. Hollick EJ, Spalton DJ, Ursell PG et al. The effect of polymethylmethacrylate, silicone and polyacrylic intraocular lenses on posterior capsular opacification 3 years after cataract surgery. Ophthalmology 1999; 106: 49-54.
2. Apple DJ, Solomon KD, Tetz MR et al. Posterior capsular opacification. Surg Ophthalmol 1992; 37: 73-116.
3. Lisa A, Saxby. Secondary cataract. Myren Yanoff and Jay S. Duker. Ophthalmology 1999.

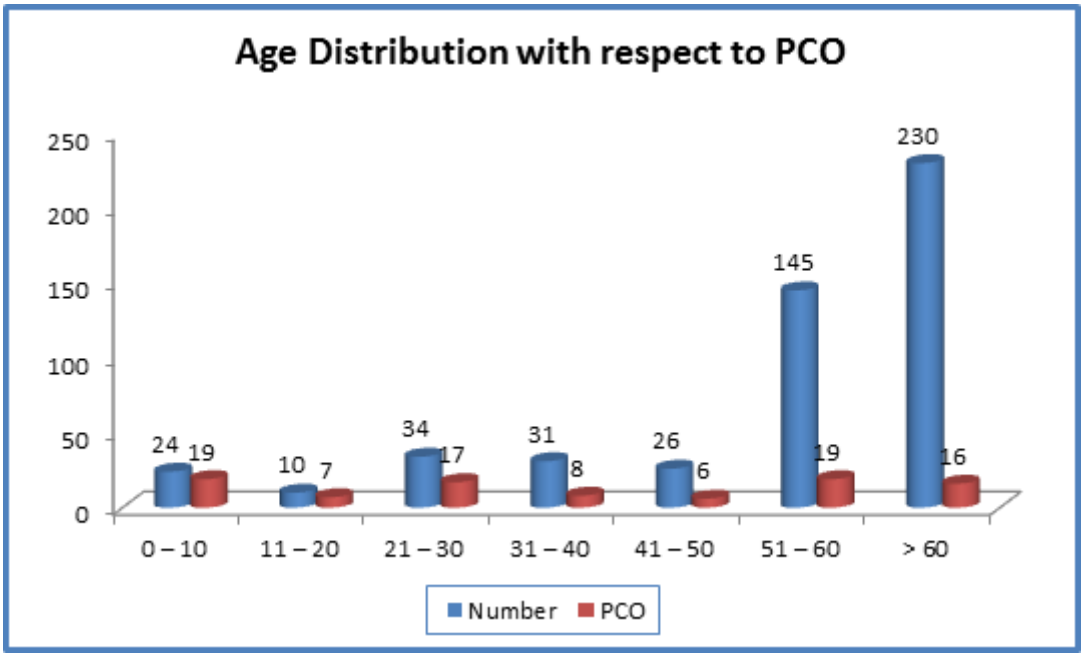
4. Schaumberg AD, Dana MR, William G. Christen et al. A systematic overview of incidence of posterior capsular opacification. Ophthalmology 1998; 105: 1213-1223.
5. Usha Koul Raina, Gupta Vinita, Mehta DK. PCCC in pediatric cataract with and without optic capture in absence of vitrectomy: a prospective randomized study. AIOS 2004; 1-4.
6. Arthur W. Allen, Zhang Hui Rong. Extracapsular cataract extraction: prognosis and complicatioins with and without posterior chamber lens implantation. Ann Ophthalmol 1987; 19: 329-333.
7. Kalpana Narendran, Arun Samprathi, Sarvana et al. Incidence of posterior capsule opacification in pediatric cataracts. AIOS Sept. 2004; Pd 402.
8. Lam A, Seck CM, Gueye NN, Faye M et al. Cataract surgery with posterior chamber lens implantation in Senegalese children less than 15 years old. J Fr Ophthalmol 2001 June; 24 (6): 590-595.
9. Abhay R. Vasavada, Bharti R. Nihalani. Pediatric cataract surgery. Current Opinion in Ophthalmology 2006; 17: 54-61.
10. Karczewicz D, Pieu Kouska, Hackoy E et al. Posterior capsular opacification as a complication of the posterior chamber intraocular lens implantation. Klin Oczna 2004; 106 (1-2): 19-22.
11. Joseph Moisseiev, Elisa Bartor, Anat Schochst, Michael Blumenthal. Long term study of prevalence of capsular opacification following extra-capsular cataract extraction. J Cataract Refract Surg Sept. 1998; 15.
12. Albassan MB, Rabiu MM, Ologunsua Yo. Long term complications of extra-capsular cataract extractions with posterior chamber intraocular lens implantation in Nigeria. Int Ophthalmol 2004; 25 (1): 27-31.
13. Namrata Sharma, Neelam Pushkar, Tany Dada et al. Complications of pediatric cataract surgery and intraocular lens implantation. J Cataract Refract Surg 1999; 25: 1585-1588.
14. Ahmad B, Sadiq S, Singh A. Intraocular lens implantation in traumatic cataract. JK Practitioner 1998 Jan-Mar; 5(1): 41-43.
15. Valentina Lacmonovio Loncar, Ivanka Petrio. Surgical treatment clinical outcomes and complications of traumatic cataract. retrospective study. Ophthalmology 2004; 45(3): 310-313.
16. DC Minassian, P Rosan, JKG Dart, A Reidy, P Desai, M Sidhu. Extra-capsular cataract extraction compared with small incision surgery by phacoemulsification: a randomized trial. Br J O 2001; 89: 822-829.
17. JGF Dowler, PG Hykin, AM Hamulton. Phacoemulsification versus extracapsular cataract extraction in patients with diabetes. Ophthalmology 2000; 107: 457-462.
18. William R. Meacock, Spalton DJ, Boyce JF, Jose RM. Effect of optic size on posterior capsule opacification: 5.5mm versus 6.0mm acrysof intraocular lenses. J Cataract Refract Surg Aug. 2001; Vol. 27, Issue 8: 1194-1198.
19. Manfred R. Tetz, Christopher Nimsgreen. Posterior capsular opacification. Part 2: Clinical findings. J Cataract Refract Surg 1999; 25: 1662-1674.
20. Hayashi K, Hayashi H, Nakao F, Hayashi F. Capsular capture of silicone intraocular lenses. J Cataract Refract Surg 1996; 22 Suppl. 2: 1267-1271.
21. JGF Dowler, PG Hykin, AM Hamilton. Phacoemulsification versus extracapsular cataract extraction in patients with diabetes. Ophthalmology 2000; 107: 457-462.
22. Michael Kuchle, Andrea Amberg, Peter Martus, Nhing X Nguijen, Gottfried OH Naumann.

DOI: 10.14260/jemds/2014/3763

Pseudoexfoliation syndrome and secondary cataract. Br J O 1997; 81: 862-866.
23. Nagamoto T, Miki F, Kurosaka D, Muyayuma H. Lens epithelial expansion rate onto the posterior caspule presented at the annual meeting of the American Society of Cataract and Refractive Surgery. Son Diego, California April, 1992.
24. Chowdhary Sanjoy, Sinha RK. Primary aqueous humour against PCO. A pilot study.
25. Ken Hayashi, H. Hayashi, Fujminori Nakao, Fumihiko Hayashi. Posterior capsule opacification after cataract surgery in patients with diabetes mellitus. Am J O 2002; 134: 10-16.
26. NV Prajna, Leon B. Ellwein, S. Selvaraj et al. The madurai intraocular lens study IV. Posterior capsular opacification. Am J O 2002 Sept; 130 (3): 304-309.

Age (Years)	Number	PCO	Percentage	Test Stats
0 – 10	24	19	79.17	
11 – 20	10	7	70.00	
21 – 30	34	17	50.00	
31 – 40	31	8	25.81	χ^2 5.d.f. = 124.09
41 – 50	26	6	23.08	
51 – 60	145	19	13.10	
> 60	230	16	6.81	
TOTAL	**500**	**92**	**18.40**	

Table 1: Age Distribution with Respect to PCO (n=500)



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Type of Cataract	Number	PCO	Percentage	Test Stats
Senile	375	34	9.07	
Congenital/Developmental	23	20	86.96	χ^2 3.d.f.
Traumatic	60	26	43.30	= 121.490
Others	42	12	28.57	

Table 2: Type of Cataract with Respect of PCO (n=500)

P = 0.000

Type of Cataract	Number	PCO	Percentage	Test Stats
ECCE/SICS	450	85	18.89	χ^2 1.d.t.
PHACO	50	7	14.00	= 121.490

Table 3: Distribution of Type of Operative Procedure with Respect to PCO (n=500)

P = 0.397

Optic Size	Number	PCO	Percentage	Test Stats
5.25 mm	250	58	23.20	χ^2 1.d.t.
6.00 mm	250	36	14.40	= 6.34

Table 4: Distribution of Size of IOL (Optic Size) with Respect to PCO

P = 0.012

Variable	Number	PCO	Percentage	Test Stats
Non-diabetic	476	87	18.28	χ^2 1.d.t.
Diabetic	24	5	20.83	= 0.100

Table 5: Distribution of Non-Diabetic and Diabetic Cases with Respect to PCO (n=500)

P = 0.754

Variable	Number	PCO	Percentage	Test Stats
Eyes without PEX	340	58	17.06	χ^2 1.d.t.
Eyes with PEX	160	34	21.25	= 1.27

Table 6: Distribution of Pseudoexfoliation Syndrome with Respect to PCO (n=500)

Pattern	Number	Percentage	Test Stats
Fibrous	56	60.87	
E. Pearls	15	16.30	χ^2 3.d.t.
S. Ring	3	3.26	= 9.148
Mixed	18	19.57	

Table 7: Pattern of PCO

P = 0.000

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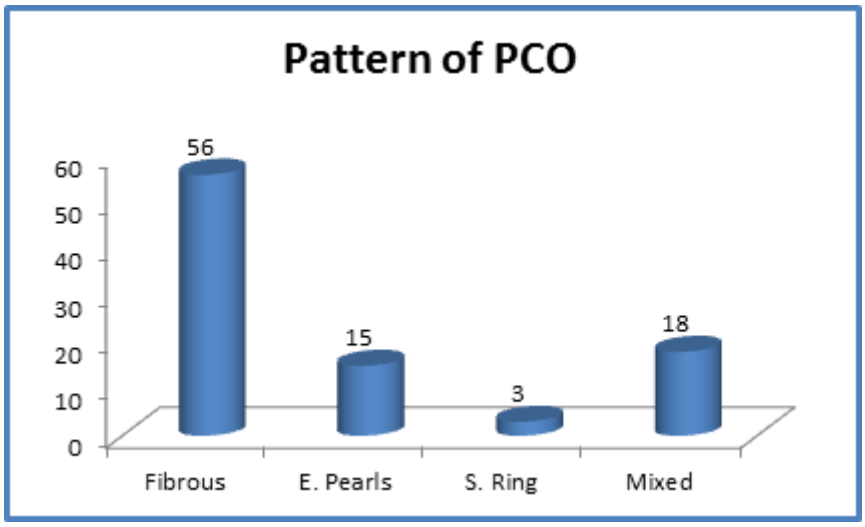
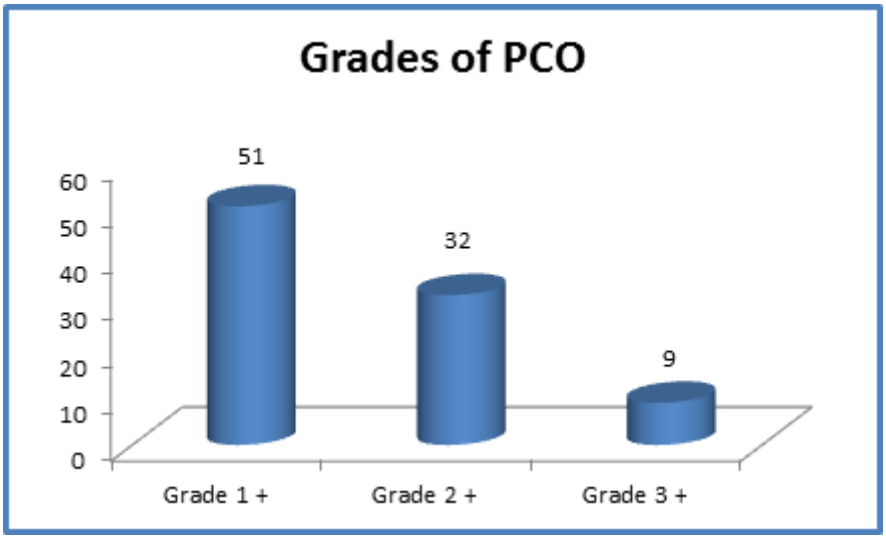


Grades	Number	Percentage
Grade 1 +	51	55.47
Grade 2 +	32	34.78
Grade 3 +	9	9.78

Table 8: Grades of PCO

P = 0.000



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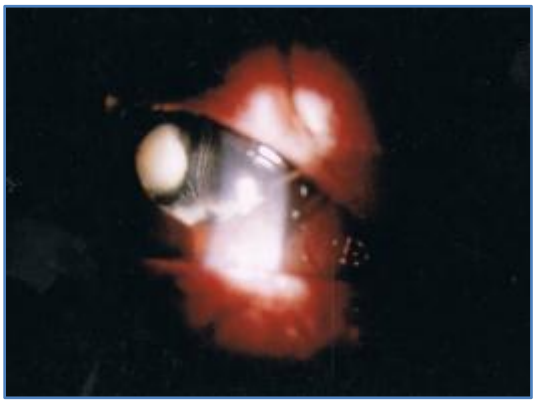
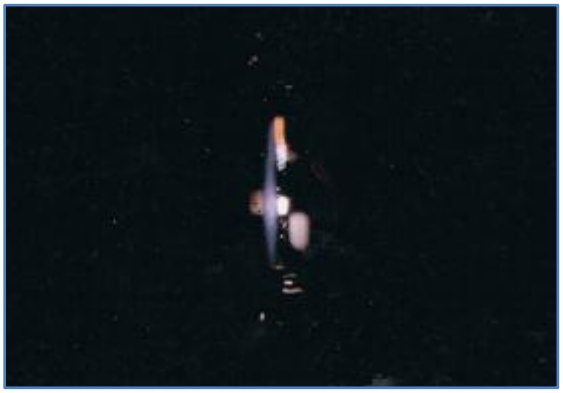
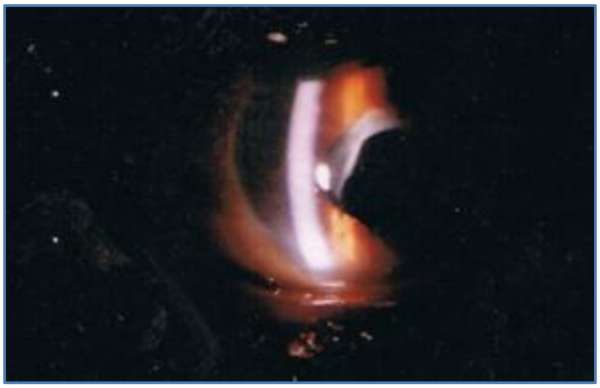


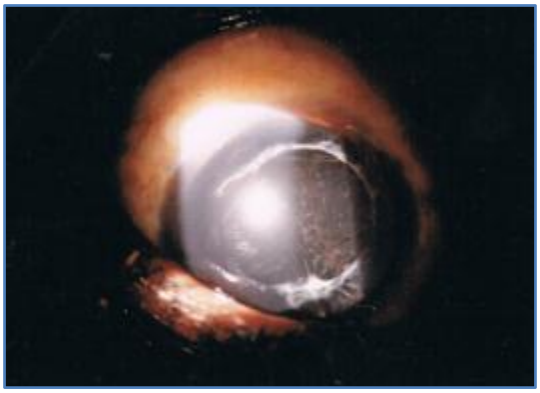
Grade 3+ PCO



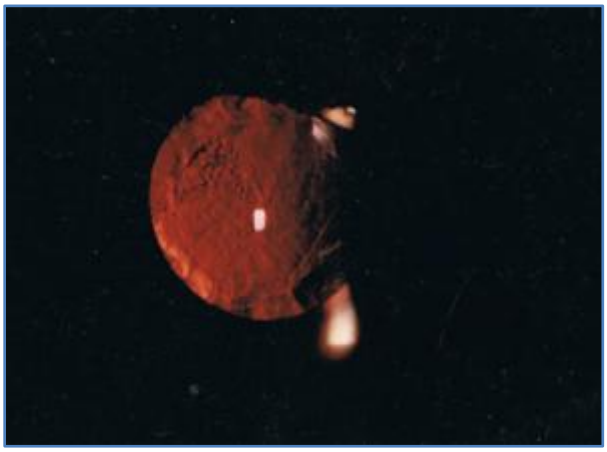
Grade 1+ PCO



Soemrring ring



Fibrous type PCO with iridodialysis



Elshnig's pearl

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