

Assessment of Visual Outcome in Patients with Phacolytic Glaucoma- A Clinical Study

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Abstract

Background: Cataractous lenses manifest a number of changes such as protein modification. The present study was conducted to assess factors affecting the visual outcome in patients with phacolytic glaucoma. **Subjects and Methods:** Present study was conducted on 56 patients of phacolytic glaucoma of both genders. Patients were subjected to slit lamp examination. Fundus examination, IOP measurement and gonioscopy were done in all cases. Small Incision Cataract Surgery was done followed by posterior chamber intraocular lens implantation in all cases. **Results:** Out of 58 patients, males were 58 and females were 26. Common complications were visual disturbances in 1, iritis in 7 and hyphema in 2 cases. The difference was significant ($P < 0.05$). Clinical presentation was deep anterior chamber with flare in 40, lens matter in anterior chamber in 6 and pseudohypopyon in 12 cases. **Conclusion:** Authors found that the outcome found to be better. There were less complications in the groups.

Keywords: Cataract, hyphema, Phacolytic glaucoma.

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Received: November 2019
Accepted: November 2019

Introduction

Cataractous lenses manifest a number of changes such as protein modification, lipid disturbances, and lens electrolyte imbalance. There is increased the formation of heavy molecular weight (HMW) protein aggregates characterized by linkage of the polypeptide chains through disulfide bonds formed as a result of oxidation of thiol groups on the protein. This leads to an increase in the water insoluble fraction of protein. The lens fibers are broken down into coarse angular fragments and then into smooth eosinophilic globules (Morgagnian globules).^[1]

Lens-induced glaucoma (LIG) is common in India. It is a common condition seen in patients with senile cataracts and is one of the commonest cause of secondary glaucoma, requiring an immediate attention and management to prevent blindness.^[2] These are heterogeneous group of disorders which develop through either open-angle or angle-closure mechanisms. Phacolytic glaucoma (PLG) and lens particle glaucoma are types of secondary open-angle glaucomas. The angle of anterior chamber is open with blockage of the trabecular meshwork by lens proteins.^[3] Phacomorphic glaucoma (PMG) and lens displacement glaucoma are types of secondary angle-closure glaucomas. Phacoanaphylactic uveitis, now termed as lens-induced uveitis, is not truly an anaphylactic reaction but is a granulomatous reaction that can cause open-angle or angle-closure glaucoma or combined open-angle and angle-

closure glaucoma.^[4] The present study was conducted to assess factors affecting the visual outcome in patients with phacolytic glaucoma.

Subjects and Methods

The present study was conducted in the department of Ophthalmology. It comprised of 56 patients of phacolytic glaucoma of both genders. They were informed regarding the study and written consent was obtained. Ethical clearance was taken prior to the study.

General information such as name, age, gender etc. was recorded. Patients were subjected to slit lamp examination. Fundus examination, IOP measurement and gonioscopy were done in all cases. Small Incision Cataract Surgery was done followed by posterior chamber intraocular lens implantation in all cases. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

Results

Table 1: Distribution of patients

Total- 58		
Gender	Males	Females
Number	32	26

[Table 1 & Figure 1] shows that out of 58 patients, males were 58 and females were 26.

[Table 2 & Figure 2] shows that clinical presentation was deep anterior chamber with flare in 40, lens matter in anterior chamber in 6 and pseudohypopyon in 12 cases.

[Table 3] shows that common complications were visual disturbances in 1, iritis in 7 and hyphema in 2 cases. The difference was significant ($P < 0.05$).

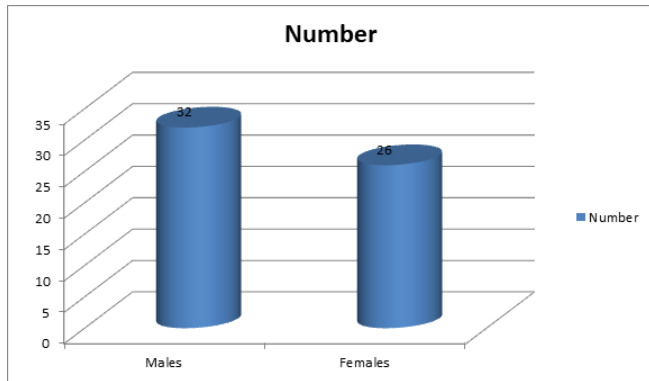


Figure 1: Distribution of patients

Table 2: Clinical Presentation

Clinical Presentation	Number	P value
Deep anterior chamber with flare	40	0.01
Lens matter in anterior chamber	6	
Pseudohypopyon	12	

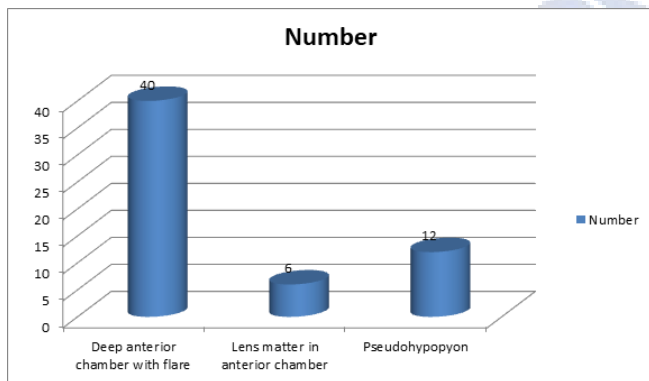


Figure 2: Clinical Presentation

Table 3: Complications in patients

Complications	Number	P value
Vitreous disturbance	1	0.05
Iritis	7	
Hyphema	2	

Discussion

The visual outcome and complication rate are the objective means of assessing the success of cataract surgery." While modern cataract extraction is safe and effective, irreversible blindness either from the complications of advanced untreated cataract or from the complications of surgery may occur. In addition associated ocular diseases increase the risk of complications and reduce the chances of a good

visual outcome.^[5]

As degeneration proceeds, proteins coagulate, lipids, crystals of cholesterol, tyrosine, leucine, and deposits of calcium carbonate and phosphate are formed.^[6] Subsequent events depend largely on the state of the capsule. If the capsule becomes impermeable by thickening and proliferation of the epithelium, water, and solutes are retained, and the nucleus is found floating in richly proteinaceous, milky fluid containing the coagulated end products of cortical degradation (Morgagnian cataract). If the capsule remains permeable, the imbibed water and soluble products of degeneration diffuse away and the lens shrinks.^[7] The present study was conducted to assess factors affecting the visual outcome in patients with phacolytic glaucoma.

In present study, out of 58 patients, males were 58 and females were 26. Mandal et al,^[8] found that phacolytic glaucoma occurs mainly in the age group of 50-70 years with a female preponderance. 46% of patients presented with hand movements, 40% with perception and projection of light, 14% with a defective projection of light. The mean pre-operative IOP was 44 mmHg. Iritis (34%) was the most common post-operative complication followed by hyphema (2%). A best corrected visual acuity of 6/12 or better was attained in 66% of patients. Out of 14% of patients presenting with a defective projection of light, only 2% had poor visual recovery.

We found that clinical presentation was deep anterior chamber with flare in 40, lens matter in anterior chamber in 6 and pseudohypopyon in 12 cases. Common complications were visual disturbances in 1, iritis in 7 and hyphema in 2 cases. Moschos et al,^[9] found that the mean age of presentation was 60.68 years with female to male ratio of 1.7:1. The best corrected visual acuity (BCVA) of 6/18 or more was found in 54% cases, whereas visual acuity of less than 6/60 was seen in 26% of cases. Visual acuity of 6/12 or better was achieved in 72% ($p < 0.01$) of cases with symptoms less than 2 weeks and in 59.10% of cases with IOP of less than 35 mm Hg at presentation. The mean IOP in cases with duration of symptoms of 2 to 4 weeks was 40.33 ± 9.36 mm Hg. Optic disk of the affected eye suffered damage in 42% of cases and in 80% of cases with symptoms for more than 2 weeks.

Gross et al,^[10] found that of 409 patients idiopathic (senile and presenile) cataract 385 were followed up for a minimum period of one year. Among these the final visual outcome was 6/12 or better in 208 eyes (54%) but visual acuity was 6/18 or less in 177 eyes (46%). Of these 177 eyes 127 eyes (71-8%) had poor vision due to preoperative ocular disorders and 31 (17-5%) due to surgical complications. The main ocular conditions which limited visual recovery were the presence of corneal opacities, hypermaturity of cataract, advanced glaucoma, senile macular degeneration, diabetic retinopathy, and postoperative retinal detachment in this order of frequency.

Conclusion

Authors found that the outcome found to be better. There were less complications in the groups.

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How to cite this article: Rohatgi S, Vohra M, Chaubey P, Ranjan R. Assessment of Visual Outcome in Patients with Phacolytic Glaucoma- A Clinical Study. *Asian J. Med. Res.* 2019;8(4):OT07-OT09.
DOI: [dx.doi.org/10.21276/ajmr.2019.8.4.OT3](https://doi.org/10.21276/ajmr.2019.8.4.OT3)

Source of Support: Nil, **Conflict of Interest:** None declared.

