MATERIAL AND METHOD
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The present study was carried out in the department of Ophthalmology, M.L.B. Medical College, and Hospital, Jhansi between July, 1988 to June, 1989. The patients selected have marked visual defect because of the advanced lenticular opacities and raised intraocular pressure. The patients suffering from lens induced glaucoma were taken up for the study.

The patients were of either sex and age ranged from 35 years to 80 years. Number of eyes underwent surgery was 36. The minimum follow up period was three month. The surgery was done by the consultant surgeon of the department.

The method:

The following pattern was adopted for almost all the patient:

History of present illness:

History of headache and eyeache, its severity, duration and association with vomiting, diminution of vision, redness and watering of eye. History of anti-glaucoma therapy was asked, if any.
Past History:

Regarding previous attack of some disease - trauma, vomiting, diabetes or visual disturbances, if any noted.

Personal History:

Symptoms relating to diabetes and hypertension were asked and addiction to any drug was recorded.

Examinations:

Systemic -

Recording of pulse, blood pressure, temperature examination of cardio-vascular and respiratory system.

Local -

The local examination was done under bright illumination with the help of unioocular corneal loupe (10 x) and + 13D condensing lens. By this we examine the conjunctiva, cornea, anterior chamber, iris pupil and lens.

The slit lamp examination was done routinely particularly to examine, transparency of cornea, aqueous flare, keratic precipitates, extent of the lenticular opacities and pigmentary desperson over lens to elicit pupillary reaction or perception of light in doubtful cases.
Investigations:

Routine -

It include urine albimin and sugar in all the cases and when ever indicated blood suger, total leucocyte count, differential leucocyte count blood haemoglobin, erythrocyte sedimentation rate etc.

Special -

(1) Visual acuity - This was recorded in terms of snellen's test type, finger counting, hand movement, perception of light and projection of rays depending on the individuals visual status. The best corrected visual acuity was recorded in post operative and follow up period.

(2) Pupillary examination - Pupil of the both eyes were seen for -

- Pupillary reaction,
- Size of the pupil and
- Shape of the pupil.

Pupillary reaction-direct and consensual pupillary reaction were seen with the help of spot light.

Size and shape of the pupil were assessed with the help of torch.
(3) **Tonometry** - It was performed with the schiot'z tonometer with standard technique. Almost in all the cases, except in incooperative patient, where only digital tonometry was done, one particular schiot'z tonometer was used preoperatively post operatively and in follow up period.

- Patient was asked to lie down in supine position looking straight at the ceiling of the examination room.

- Xylocain 4% was instilled into the both eyes untill local anaesthesia was complete.

- Both eyes lids were separated with the finger without pressing on the eye ball and then the tonometer was placed vertically on the cornea so that it rest by its own weight.

- Depending on the tension of the eye there was a deflection of the recording needle on the scale.

- The reading on the scale was then translated from the conversion chart into milimeter of mercury.
PHOTOGRAPH SHOWING SCHIOTZ TONOMETRY (LEFT EYE)
(4) **Fundoscopy** - Both distant direct and direct ophthalmoscopy were done post operatively by Keeler's mediclux ophthalmoscope. The condition of the optic disc such as size, shape, colour, excavation nasal, shifting of vessels and disc cup ratio were noted. Beside this any abnormality in the fundus was recorded.

(5) **Gonioscopy** - It was done in co-operative patients by Goldman's three mirror Gonioscope to assess mainly the angle status (open or closed). Beside these the peripheral anterior synechia and neovascularisation of the angle, if any were noted.

When the desired investigations were done the patient was subjected for medical therapy followed by surgical intervention. Whenever the operation was delayed the patient was put on acetazolamide and timolol eye drop.

**Preoperative preparation:**

The patient were mentally prepared to undergo cataract extraction with sector iridectomy or combined surgery. To relieve the apprehension, anxiety and to have good sleep night before the operation diazepam 5mg tablet was given. The eye lashes were cut a day before.
The intraocular pressure was controlled with acetazolamide 250 mg tablet in suitable doses. Two ounces of glycerol with equal amount of water as a single dose therapy, when tension was not controlled, intravenous mannitol 20% was injected an hour before the operation. To premedicate the patient, injection pentazocine 30 mg and injection phenargan 50 mg were given intramuscularly half an hour before the operation.

Anesthesia:

**Topical** - By instillation of 4% lignocain 4 - 5 times at 2 minute interval.

**Regional akinesia** - It was obtained by 2% lignocain with adrenalin by O'Brien's method preferably and when ever essential by vonlint's technique too.

**Ciliary block** - By 1 ml. retrobulbar injection of 2% lignocain with adrenalin followed by ocular massage for 3 - 4 minutes.

Steps of operation:

The operation was done under 3x magnifications by magnifying glasses. After the lid and superior rectus suturing, a limbal based conjunctival flap was formed
over the superior 180 degree approximately 4 m.m. from limbus at 12 O'clock position and gradually tapperd down closed to the limbus at 3 and 9 O'clock position. Flape was reflected over the cornea and limbus cleared. The superfecial vessels were thermally cauterized.

Then with the help of blade enter the anterior chamber at 12 O'clock position. Corneal scissors was then introduced into the anterior chamber through already formed incision, to extend the corneal section passing through the preformed groove. An iridectomy was performed after the completion of the section. After releasing the superior rectus muscle suture lens extraction was done by cryoprobe / forceps / vectis or as indicated otherwise. Intra capsular cataract extraction was planned in every case.

In some cases a whip like iris pillar reposited in the sub conjuctival space (iridenclesis) alongwith the cataract extraction. In some cases trabecuclectomy alongwith the lens extraction was done.
Preplaced mattress suture were tied, iris was reposited and corneo seleral stiches were given with 8 - 0 virgin silk or 9 - 0 manofilament. Then conjunctival flap was reposited and stiched continuously with 8 - 0 silk suture. The sterile air was injected to reform the anterior chamber. Sub-conjunctival injection of decadron 1 mg. and gentamicin 10 mg. was given. The operative complications were managed as in the routine cataract extraction. After applying the plain antibiotic eye ointment the eye was bandaged.

**Post Operative management:**

A suitable systemic antibiotic usually chloramphenicol 250 mg. 4 times a day or cotrimoxazole double strength 1 tablet twice a day with anti-inflammatory drug were given to all the patients, for 3 days atleast. Daily dressing was done with corticosteroid and antibiotic eye ointment. 1% atropine was added in the case of iritis or in whom sector iridectomy was performed. Injection gentamicin, decadron and atropine were given sub - conjunctively when indicated.
The eye was examined on every dressing and post-operative details were noted. Particular attention was paid to the condition of section wound, striate keratitis, depth of the anterior chamber hyphema and any sign of iritis and were managed accordingly. In uncomplicated cases the conjunctival and corneoseleral stiches were removed on the 8th day and the patient was discharged subsequently with the follow up treatment and advise.

The follow up:

The patient were advised for follow up examination at 15 days after discharge then at one month duration. Aphakic correction was done at one and half month after the operation. Final examination was done at 3 months after operation.

At the follow up the eye was examined for any infection, transparency of cornea, depth of anterior chamber and condition of the iris. Fundoscopy was done to evaluate the condition of disc. More emphasis was given on corrected visual acuity and intraocular pressure. All the findings were recorded for the final assessment.