MATERIAL AND METHODS
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The patients for the study were selected from outpatient department of Ophthalmology, M.L.B. Medical College, Jhansi, as well as patients referred from other centers. The patients with chief complaints of gradual diminution of vision after some duration of successful cataract extraction surgery were selected for the study.

In our clinical study of 12 months from December 2000 to November 2001, 60 patients, with age varying from 5 Yrs. to 90 Yrs. underwent Nd:YAG laser posterior capsulotomy. The treatment is done as an outpatient procedure using VISULAS YAG-II Q-switched Nd:YAG laser (CARL ZEISS).

Material and methods will be discussed under the following headings:

1. Selection of patient from the outpatient department.

3. Evaluation of visual acuity following capsulotomy.

4. Evaluation of IOP following capsulotomy by Sciotz tonometer.

5. Find out any complication(s) during or after capsulotomy procedure.

6. Post laser treatment

1. Selection of patients

60 eyes, 52 pseudophakics, 8 aphakics were selected for the study. The time interval between cataract surgery & Nd:YAG capsulotomy was less than 6 months in 20 eyes & more than 6 months in 40 eyes. All eyes with cause of diminution of vision other than posterior capsular opacification were not selected for this study.

All the patients were subjected to detailed clinical evaluation on the following line:

History

1. Duration of diminutions of vision.

2. When the patient was operated for cataract.
3. Any useful gain of vision after cataract surgery

4. Any history of glaucoma – medication/surgery

5. Any history of diabetes mellitus, hypertension and asthma.

**Examination:** All the patients selected were subjected a complete ocular examination prior to capsulotomy and included –

1. Corrected and uncorrected visual acuity for distance and near

2. Refraction

3. Slit lamp examination

4. Direct ophthalmoscopy

5. Indirect ophthalmoscopy

6. Schiotz tonometry

(i) Preparation of the patient:

(a) Explanation of the procedure and informed consent - patient is explained the reasons, steps and duration of the procedure to see his/her cooperation during the procedure. Its painless nature is explained and the importance of steady fixation emphasized.

(b) Patients pupil is dilated with 1% Tropicamide & 10% Phenylephrine.

(c) Seating of the patient: Patient must be seated comfortably with properly adjusted stool, table and chin rest. A darkened/semidarkened room is preferable as it improves surgeon's visualization of the target. An illuminated target is provided to the patient for maintaining steady fixation. A head strap may be used to maintain forehead positioning.

(ii) Procedure

Anesthetize the patients eye using 4% Lignocaine
Size of capsulotomy – The size of capsulotomy should match the size of the pupil in the physiologic state. It should be about 4 mm since the mean pupil size in scotopic condition is 3.9 mm (±0.5 mm).

Focussing: With the help of slit lamp, optical beam will be focussed on the posterior capsule and laser shot will be given. As the Nd:YAG produces invisible infra-red rays, an inbuilt orange red He-Ne beam outlines the infra-red rays & helps in focusing it, on or slightly behind the posterior capsule(1-2mm).

Energy: The intensity and number of YAG energy applications depend on the type of posterior capsule opacification. To begin a capsulotomy use of lowest energy / pulse (about 1 mJ) that will open the capsule is advisable and if necessary, gradually increase the energy. The first shot should be given as close to the visual axis as possible and then extend it in a cruciate manner. Shots placed at the tension lines result in
the largest opening per shot since the tension causes
the initial opening to retract. Denser fibrotic
opacification may require higher energy. Number of
shots applied and total energy used is recorded.

3. **Evaluation of visual acuity following**
capsulotomy by routine ophthalmic examination

Evaluation of visual acuity is done prior to laser
procedure and in post laser period, at 1 hr, 24 hr, 1 week
and 2 weeks. Instruments used were –

(a) Snellen’s chart
(b) Near vision chart
(c) Trial set
(d) Direct ophthalmoscope
(e) Indirect ophthalmoscope
(f) Slit lamp

Final refraction is done 2 weeks after the capsulotomy
procedure.
Evaluation of IOP following capsulotomy by Sciotz tonometer

Evaluation of IOP is done prior to laser procedure and after the laser capsulotomy procedure at 1 hr, 4 hrs, 24hr.

5. **Find out any complication(s) during or after capsulotomy procedure.**

Patients are followed after 24 hrs. 1 week, 1 month & 6 month interval as per their availability for the improvement in their visual acuity & also to detect any complication(s) & its management.

6. **Post laser treatment**

Prophylactically patients were given Timolol maleate eye drops 0.5% twice daily, Prednisolone acetate eye drops 1% 4 times daily & Tab. Acetazolamide 250mg twice daily if IOP rise was found greater than 5mm Hg (than its previous reading) 4 hrs. post laser.