MATERIAL & METHOD

The present study was carried out in the department of Ophthalmology, M.L.B. Medical College Hospital, Jhansi. In 21 patients, posterior chamber IOL implantation was done after extracapsular cataract extraction.

The patients selected for posterior chamber IOL were senile cataracts with willingness for IOL implantation.

A detailed general and ocular history of the patient was taken with special reference for any history of hypertension, diabetes, asthma, rheumatoid arthritis cerebrovascular insufficiency or septic focus. In ocular history special attention was given on the refractive condition of the eye prior to the development of cataract.

A detailed general examination of the patient was done with special attention for any sign of diabetes, hypertension, rheumatoid arthritis, asthma, thyroid disease—cerebrovascular insufficiency, enlarged prostate and psychiatric problems.

Thorough local examination of all the patients was carried out by focal illumination, slit lamp examination and retinoscopy, fundus examination, if possible, and intraocular tension was recorded.
Patients who were having diabetes, corneal endothelial dystrophy, iritis, iris atrophy, corneal opacity, keratitis, glaucoma, high myopia, complicated cataract, keratoconjunctivitis sicca, and any history of retinal detachment and single eyed patients were not selected for IOL implantation.

**INTRAOCULAR LENSES**:

Modified 'J' loop Shape (Shah & Shah) posterior chamber lenses were used with following characteristics -

- **Model** - 104
- Modified 'J' loop posterior chamber lens with a 6.0 mm UV - absorbing optic, two PMMA loops, 10 degree angulation, 4 positioning holes, 14.0 mm length, A constant = 116.8
- ACD (mm) 4.2

These lenses are sterilized by ethylene oxide, dry packed and made up of polymethyl metha-acrylate.

**DETERMINATION OF POWER OF IOL TO BE IMPLANTED**:

1. A detailed history regarding refraction of the eye prior to the development of cataract was taken and the power of lens to be implanted was calculated by the following formula devised by R.C. Drews, 1977. The power of posterior chamber intraocular lens is $20 \, D + (\text{Primary refractive error} \times 1.25)$. 
(ii) Retinoscopy was carried out on the operation table after lens extraction. vision was injected into the anterior chamber and retinoscopy was done. Then the appropriate intraocular lens is selected.

(iii) In more advanced cases, suitable power of IOL is calculated by using a special formula which incorporates keratometry readings and the length of the globe as determined by A-scan ultrasonography. The A constant used in the formula is different according to which type of IOL is to be implanted.

\[ \text{SRK} = P = A - 2.5L + 0.9K \]

- \( A \) = Constant of lens implant
- \( P \) = Power of lens
- \( L \) = Axial length
- \( K \) = Keratometry reading.

**Preoperative preparation:**

The night before operation, patients were given mild sedation with Diazepam tablet, Diamox 500 mg for reducing intraocular pressure, antibiotic eye drops were instilled one day prior to operation.

In the morning, prior to operation, pupil was dialated with instillation of Drosyn 10% and homatropine and tab. Diamox given 2 hrs before operation. On the operation table I.V. 20% mannitol 250 ml was given about 20 minutes before operation.
**Anaesthesia:**

1. Topical 4% lignocain as drops.
2. Facial block by lignocain 2% with adrenaline 1:100000.
3. Retrobulbar block with lignocain 2% along with adrenaline 1:100000.

**Operative Steps:**

- Part prepared and draped, lid sutures (upper & lower) were given then superior rectus fixation suture was applied and fixed. A small limbus based conjunctival flap was made and bleeding vessels were cauterised with the help of heat cautery. Small limbal section was made at 12 o'clock position with the help of razor blade (Bharat blade). Anterior lens capsulectomy was done with sharp cystitome made out from a sharp disposable hypodermic needle by multiple incisions at peripheral part of anterior lens capsule and anterior lens capsule was removed with forceps. Limbal incision was enlarged from 3 o'clock position to 9 o'clock position and the nucleus was expressed by bimanual expression method. Three corneoscleral temporary suture were given at 3 mm interval. Then cortical matter was washed out with the help of two way canula (irrigation aspiration) in closed chamber technique. Balanced salt solution mixed with adrenaline was used as irrigating solution. Polishing of posterior lens capsule done if necessary.
Methyl cellulose (visilon 2%) introduced in the chamber to protect the corneal endothelium. Now posterior chamber intraocular lens was implanted and dialled into the horizontal position by engaging the guide holes with a special hook. One F.B.I. at 2 o'clock position was done and injection pilocarpine was injected into anterior chamber to constrict it and to ensure that the optic is behind the iris. Methyl cellulose was washed out from chamber by B.S.S. solution.

The incision was closed with 5-7 interrupted corneoscleral sutures of 9-0 monofilament and suture knots were buried. A.C. was formed by small amount of sterile air injection. Sub-conjunctival injection of Decadron and Gentamycin was given and dressing was done with neospirine-H eye ointment and timolol maleate 0.5% eye drops.

The intraoperative complications were recorded.

**Postoperative treatment:**

All the patients were given -

- Cap. Chloromycetin - 1 QDS )
- Tab. Ibuprofen - 1 TDS ) 3-5 days )
- Tab. B Complex - 1 BD Pc

Daily dressing was done with neosporine H ointment and with timolol maleate 0.5% eye drops for 3-5 days and complications were recorded. The patients were discharged after 3 days.
After the discharge the followup was done weekly for one month. Lateron followup was done fortnightly for 6-9 month.

During the period of followup and at the time of discharge a detailed local examination was carried out as shown in attached proforma.