

A STUDY OF POSTERIOR CHAMBER INTRAOCULAR LENS IMPLANTATION

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ABSTRACT:

200 cases of extracapsular extraction with Posterior Chamber intra-ocular lens implantation were studied between February, 1988 to April, 1994 at DHQ Teaching Hospital, Abbottabad and were followed up, with a view to measure post-op refractive errors and complications. The procedure was performed either under GA or under Peribulbar anaesthesia using operating microscope, IOL were inserted with the help of air bubble or methyl cellulose. Michol or acetylcholine were used in selected cases. (21 % of the patients had visual acuity of 6/6 without any glasses. 72.6% had visual acuity of 6/9 or more with spherical correction of +2D/-2D. 7.8% of the patients developed after cataract which needed yag Laser or capsulotomy). The procedure is treatment of choice for unilateral and senile cataract without any additional complication then seen in routine E.C.C.E. No extra risk of post-operative complications is experienced.

INTRODUCTION:

Cataract formation due to old age, trauma, metabolic and systemic diseases are leading causes of reversible blindness¹. Mature cataract prevents rays of light reaching the retina and its surgical removal becomes mandatory. Hyper-mature cataracts can cause serious complications like secondary Glaucoma and Uveitis². Aphakic glasses cause multitude of Optical problems like 30 — 35% image magnification, spherical and chromatic aberration and annular blindness in the peripheral field of vision³. Intractable diplopia is a severe and unbeatable complication in unioocular aphakia. Many of these optical problems due to Aphakic glasses could be eliminated with daily or extended wear of soft contact lenses (CL) since they are better tolerated⁴. Socio-financial set up in Pakistan is not favourable to CL use. Patients with active blepharitis, uveitis, dry eyes, ocular infection and high astigmatism cannot be fitted with CL too⁵. Insertion of Posterior Chamber Intraocular lens is becoming state of art surgical technique for the treatment of traumatic unilateral and senile cataract, eliminating all the optical problems associated with glasses⁶.

MATERIALS AND METHODS:

We examined 200 cases of posterior chamber intraocular lens implantation done at DHQ Teaching Hospital, Abbottabad between February, 1988 to April, 1994. Pre-operative assessment included refractive history, visual acuity, slit lamp microscopy, IOP determination, direct and indirect ophthalmoscopy, routine laboratory investigation and exclusion of major uncontrolled systemic diseases.

Patients under 40 years were given GA with I/V Sodium Pentothal Induction, intubation with short acting muscle relaxant and maintenance with a mixture of nitrous oxide, halothane and oxygen. Local anaesthesia was given by O'Brien Fascial block and Peribulbar injection of 5cc mixture of

Lignocaine, Adrenaline 1: 2000,000 with Bupercain. Fornix base conjunctival flap, grooved incision extending to 100°, and closed chamber anterior capsulotomy with 24-gauge needle. Nucleus was expressed with counter pressure. Irrigation and aspiration were performed with Same type I/A Cannula System. Intraocular lens was inserted with air bubble in the a/c or with Methylcellulose. Michol or acetylcholine were used in selected cases. Both "C" and "J" loop lenses of AMO, Rayner, Cilco and ORC were used. Power use I.O.L. estimated, using refractive history + 18.00 + Rx 1.25 role. Only 3 cases of high myopia, had biometric I.O.L. power calculation. All patients were given sub-conjunctival injection of Decadron and 20mg Gentacin. Post-operative treatment included Topical antibiotics, Steroid, Beta blocker. Oral Diamox and NSAID for few days. Patients were discharged on 3rd or 4th post-operative day. They were seen at 2 weekly intervals for eight weeks and thereafter at 3 months' interval. At 8th week visual acuity was fully assessed and refractive error corrected. At each visit patient were observed for complication if any.

RESULTS:

21 patients were lost to follow up. 4 patients had died within 6-12 months of surgery. 3 patients had moved out of town one each to Peshawar, Rawalpindi and Hyderabad, and didn't return for follow up.

39 patients (21.78%) had visual acuity (VA) of 6/6 without any glasses. 129 (72.06%) had achieved VA of 6/9 or more with correcting lens equivalent to +2D/-2D⁰ (Sph or Cyl) 8 patients (4.46%) had visual acuity of 6/12 or less due to Refractive error, Astigmatism/or Posterior Segment disease. 14 (7.82%) developed after cataract which needed yag laser or posterior capsulotomy¹. One patient (0.5%) developed Bacterial Endophthalmitis on 3rd post-operative day and had only perception of light in that eye. 1 patient (0.55%) had visual acuity of count finger due to progressive optic atrophy.

DISCUSSION

Insertion of posterior chamber intra-ocular lens is becoming popular and procedure of choice. When first introduced, anterior chamber lenses were prone to dislocation causing corneal endothelial damage, bullous keratopathy and UGH (Uveitis, Glaucoma and Hypohaema Syndrome) A lot of these problems have been eliminated with better designed posterior chamber lenses. There are only few contraindication to their use⁸. However, their use in bilateral congenital cataract remains controversial. Our post-operative result, as regards visual acuity and residual refractive error were better than previously reported series.¹⁰ Post-operative astigmatism, of more than 3 diopters though only 4.46% need to be climated. The final results depend upon surgical technique and power estimation⁹. Our result indicates patients undergoing lens implantation do not have any additional risk of post-operative complication.

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