



## INCIDENT OF WRONG PC INTRAOCULAR LENS (IOL) IMPLANT AND SURGICAL TECHNIQUE FOR IOL EXCHANGE

Ritesh Verma\*

MBBS Regional Institute of Ophthalmology, Pandit Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences, Rohtak, India- 124001 \*Corresponding Author

### ABSTRACT

One of the most prevalent and preventable error in the cataract surgery is placement of incorrect intraocular lens implant. We present a case of IOL (intraocular lens) exchange surgery due to a biometry error and the surgical technique for the same. Patient was unhappy with results of initial surgery and demanded an exchange surgery after which there was complete restoration of vision.

**KEYWORDS** : IOL exchange; refractive surprise; biometry errors.

### Introduction

Cataract surgery with intraocular lens implantation is one of the most commonly done elective surgeries in the field of ophthalmology.<sup>1</sup> Although infrequent, one of the most prevalent confusions and potentially preventable errors is insertion of an incorrect or wrong IOL implant. IOL implantation errors usually result in a 'refractive surprise' wherein an unexpected/unintended post-operative refractive outcome occurs.<sup>2</sup> Some of the issues include problems in obtaining accurate biometry, problems matching biometry to patients, problems matching correct IOL implant to correct patient and to laterality. A biometry error is one of the most common causes of wrong IOL selection as reported by Kelly et al.<sup>3,4</sup>

### Case report

A 68-year-old man underwent uneventful phacoemulsification and implantation of a single piece hydrophilic acrylic posterior chamber IOL of the power +23.0D in right eye at a private hospital. Patient was kept on topical antibiotic and steroid postoperatively. The post operative period was uneventful. One week post operatively the patient had best corrected visual acuity of 6/36 in right eye. Patient was followed up after one month with refraction which revealed a spherical error of +3.00DS\+0.50 cyl at 180 which resulted in best corrected visual acuity (BCVA) of 6/12.

Patient presented to the outpatient department of our institute with complaints of blurring of vision, watering and heaviness in the right eye. He did not want to use glasses and requested the surgeon to exchange the IOL in the operated eye. A repeat biometry was done 3 months postoperatively which revealed expected IOL power to be +25D with SRK-II. Patient was taken up for IOL exchange surgery with a new IOL insertion of the above mentioned power 4 and half months after the initial cataract surgery with informed and written consent. After an uneventful cataract surgery the patient had a post operative best corrected visual acuity of 6/9 with 0.5Dcyl 180.

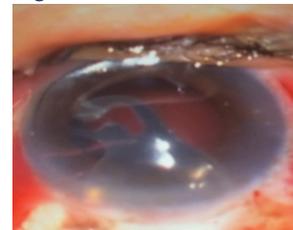
### Surgical technique

The procedure was done under peribulbar anaesthesia. Superior rectus bridle suture was passed. A fornix based conjunctival flap was raised and wet field cautery was done. Sclero corneal tunnel was made and anterior chamber was entered with a keratome. OVDs were injected to fill the anterior chamber. Using a blunt hook, the IOL optic edge was gently lifted to assess the degree and extent of adherence between the IOL and the lens capsular bag. It is important to release all IOL-capsular adhesion before any IOL rotation to prevent any zonular damage and/or capsular tear. Once the IOL was freed from its anterior and posterior capsular attachments, the IOL optic was gently lifted and viscoelastic was injected in the capsular bag. Using an IOL dialer, the IOL haptics are released from the posterior lens capsule, and the lens was gently brought into the anterior chamber, taking care not to damage the corneal endothelium or the posterior lens capsule. The optic and the

trailing haptic was completely freed from the adhesions and extracted out. A hydrophilic IOL with a different power was inserted and dialed. Anterior chamber was washed with BSS. Subconjunctival gentamicin and dexamethasone were injected. Postoperatively the patient was put on topical antibiotics and steroids.



**Picture 1- Showing construction of sclera-corneal tunnel for IOL explant**



**Picture 2- showing IOL being explanted out after it has been freed from posterior capsule.**



**Picture 3- showing a new IOL being inserted**



**Picture 4- showing a well centred IOL in the bag.**

### Discussion

As cataract and refractive surgery merge, expectations for predictable refraction after cataract surgery are increasing as never before.<sup>7</sup> Although refractive surprise resulting from IOL

implantation is rare, it could occur in a busy ophthalmology practice. In many studies,<sup>4, 5, 6</sup> incorrect AL measurement was an important factor attributing to unplanned ametropia after lens implantation. Fortunately, this kind of error does not occur frequently and can be avoided with due diligence and efficient sign-off procedures. Effective communications among surgical personnel, augmented by a system of checks and double checks, can go a long way toward preventing these errors.

#### REFERENCES

1. The Information Centre, hospital episode statistics, hesonline Main procedures and interventions: 2000–2009 . <http://www.hesonline.nhs.uk/Ea se/ servlet/ Content Server? siteID=1937&categoryID=215> .
2. Simon JW, Ngo Y, Khan S, Strogatz D. Surgical confusions in ophthalmology. Arch Ophthalmol. 2007;125:1515–1522.
3. Ali N. A decade of clinical negligence in ophthalmology BMC Ophthalmol 2007720doi:10.1186/1471-2415-7-20
4. Carlson, A.N., Stewart, W.C., and Tso, P.C. Intraocular lens complications requiring removal or exchange. Surv Ophthalmol. 1998;42:417–440
5. Salz, J.J. and Reader, A.L. III. Lens implant exchanges for incorrect power: results of an informal survey. J Cataract Refract Surg. 1988; 14:221–224
6. Olsen, T. Sources of error in intraocular lens power calculation. J Cataract Refract Surg. 1992; 18: 125–129
7. Olson, R.J., Mamalis, N., Werner, L., and Apple, D.J. Cataract treatment in the beginning of the 21st century. Am J Ophthalmol. 2003; 136: 146–154