Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/16282
DOI URL: http://dx.doi.org/10.21474/IJAR01/16282

RESEARCH ARTICLE

SURGICAL OUTCOME OF CORNEAL TRIPLE PROCEDURE IN THE MANAGEMENT OF CASES OF CORNEAL AND LENTICULAR OPACITIES IN A TERTIARY CARE HOSPITAL

Dr. Gariyashee Lahkar[1] and Dr. R.N. Gogoi[2]

1. Post Graduate Trainee, Department of Ophthalmology, Assam Medical College & Hospital, Dibrugarh, Assam, India.
2. Associate Professor, Department of Ophthalmology, Assam Medical College & Hospital, Dibrugarh, Assam, India.

Manuscript Info

Manuscript History
Received: 15 December 2022
Final Accepted: 19 January 2023
Published: February 2023

Key words:-
Triple Procedure, PKP-ECCE-PCIOL, Adherent Leucoma

Abstract

We describe three cases of adherent leucoma with cataract who had unaided vision of hand movement close to face and were managed with relatively rare one step Triple procedure involving penetrating Keratoplasty, Extra-Capsular Cataract Extraction and IOL implantation(PKP-ECCE-PCIOL). Patients showed encouraging post-operative results, thereby providing impetus to study the role of this procedure in patients who are practically bilaterally blind in providing useful vision.

Introduction:-

Triple procedure is a surgical approach that entails penetrating keratoplasty, extracapsular lens extraction and IOL implantation.It is specially effective in the treatment for corneal diseases with cataract and has several advantages such as single procedure, rapid visual rehabilitation and reduced endothelial trauma.[1] Here, we present three cases to show the outcome of the procedure in practically bilaterally blind patients.

Methods:-

A hospital based observational study was done in the Department of Ophthalmology, Assam Medical College and Hospital where the outcome of performing a triple procedure in patients with corneal as well as lenticular opacities was observed. Patients with bilateral diminution of vision due to underlying conditions who attended the Ophthalmology outpatient department were taken up for the surgery. There were no associated systemic complaints. The patients underwent a thorough general and systemic examination followed by a comprehensive ophthalmic examination. The Visual Acuity of the patients were assessed and the anterior segment was properly examined. Due to the Opacity all the intraocular details could not be appreciated. IOP was measured by Schiotz tonometer and IOL power was caclculated by Sanders-Retzlaff-Kraff equation.

The patients were then kept under effective antibiotic eye drops cover, 6 times a day, seven days prior the medical procedure while other investigations were being done. The patients were explained about the possible complications and informed consent was procured from the patients.

During surgery, the patients were examined, antiseptic dressing was done and and peribulbar anaesthesia was given. After the anesthesia was provided, the area was disinfected and sterilized.Under local anesthesia, a 7 mm entering

Corresponding Author:- Dr. Gariyashee Lahkar
Address:- Post Graduate Trainee, Department of Ophthalmology, Assam Medical College & Hospital, Dibrugarh, Assam, India.

corneal graft was done from the donor cornea. Therapeutic penetrating keratoplasty was performed with placement of the graft; 16 sutures were taken, following which ECCE and posterior chamber lens implantation (PCIOL) were done simultaneously. 10/0 nylon sutures were used to stitch the graft in place. At the end of the surgery, antibiotics and steroids was injected into a lower most fornix. The eye was patched until epithelial healing was over. Topical antibiotics, steroid drops, lubricating eyedrops, and sodium chloride eyedrops with a brief duration of action were used postoperatively along with systemic drugs like analgesics, and anti-inflammatory medicines as required by the patients.

Case Reports:

Case 1:

A 53 years, female presented with Diminution of vision in both eyes since last 40 yearsfollowing injury to the eyes which worsened over the last one year. The right eye was diagnosed to be a case of adherent leucoma while the left eye was phthisical. Hence, the right eye was taken up for surgery.

$UCV_{A:}$ HMCF
Conjunctiva: WNL
Cornea:Adherent Leucoma
Pupils:Could not be assessed
Fundus: Could not be assessed
IOP :20.6 mmHg

Figure:- Patient at presentation.

Case 2:

A 53 years, female presented with Diminution of vision in both eyes since last 40 yearsfollowing injury to the eyes which worsened over the last one year. The right eye was diagnosed to be a case of adherent leucoma while the left eye was phthisical. Hence, the right eye was taken up for surgery.

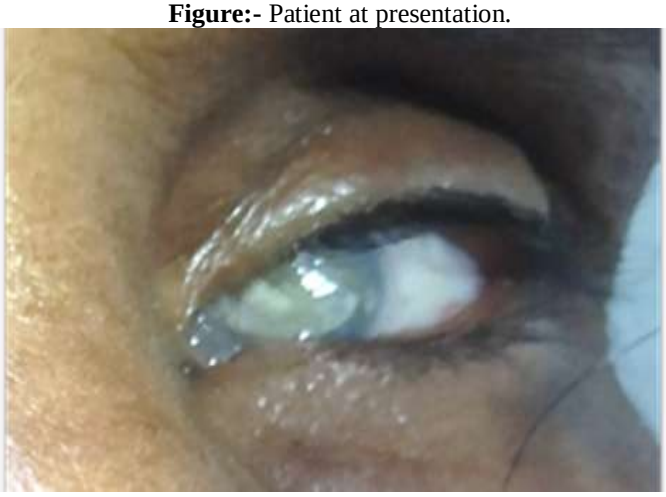
$UCV_{A:}$ PL positive, PR
Conjunctiva: WNL
Cornea:Adherent Leucoma
Pupils:Could not be assessed
Fundus: Could not be assessed
IOP :14.6 mmHg

Figure:- Patient at presentation

Case 3:
A 53 years, female presented with Diminution of vision in both eyes since last 40 yearsfollowing injury to the eyes which worsened over the last one year. The right eye was diagnosed to be a case of adherent leucoma while the left eye was phthisical. Hence, the right eye was taken up for surgery.

UCV$_{A:}$ PL positive, PR
Conjunctiva: WNL
Cornea:Adherent Leucoma
Pupils:Could not be assessed
Fundus: Could not be assessed
IOP :17.3 mmHg

Figure:- Patient at presentation.



Results and Observation:-

Following the procedure, the patients had an improved visual acuity with Clear Corneal Graft, Well-Centered IOL, Normal IOP. The patients are follow-up and no complications have been noted so far.

Figure:- Post operative Visual acuity of the cases.

Discussion:-

Triple Procedure is preferred over sequential 2 step surgery[2].Only PKP in rural patients reduces the patient's visual outcome as they lose follow up for second step IOL.[3]IOL power calculation is now answered by use of standard constant keratometry value of 44 D.[3]Clear corneal graft after surgery ranges from 60% to 100%.[4]In a study by Nigwekar S et al, patients had graft failure(30.76%), epithelial defects(23.07%) , Uveitis and PCO (15.38%)as complications. [5]SridharMS et al studied complicationsand outcomes of 104 corneal triple procedure where they noted itis a safe surgical procedure with good graft clarity and reasonable visual recovery[6]

Conclusion:-

Thus, Triple Procedure is an effective surgical option in corneal diseases with cataract. It provides good results in respect to graft clarity, unaided vision, prevents endothelial damage during subsequent surgery and faster rehabilitation. Being a single step surgery, it reduces the patient's hospital stay, postoperative care and follows up visits.Especially useful in elderly patients with geriatric health issues.However, open sky procedure may result in unmanageable vitreous pressure, posterior capsule rupture, difficulty implanting in an IOL, and, in the worst case scenario, expulsive haemorrhage.

References:-

1.Inoue Y. Corneal triple procedure. In Seminars in Ophthalmology 2001 Jan 1 (Vol. 16, No. 3, pp. 113-118). Taylor & Francis.

2. Flowers CW, McLeod SD, McDonnell PJ, Irvine JA, Smith RE. Evaluation of intraocular lens power calculation formulas in the triple procedure. J Cataract Refract Surg. 1996;22:116–12

3. Natarajan R, Ahuja B. The Triple Procedure: Analysis of Structural, Functional & Refractive Outcome. Journal of Geriatric Medicine. 2020 Aug 24;1(3).

4. Preschel N, Hardten DR. Management of coincidental corneal disease and cataract.CurrOpinOphthalmol. 1998 Feb; 9(1):39-45

5. Meyer RF, Musch DC. Assessment of success and complications of triple procedure surgery. Am J Ophthalmol. 1987; 104:233–24

6.Sridhar MS, Murthy S, Bansal AK, Rao GN. Corneal triple procedure: indications, complications, and outcomes: a developing country scenario. Cornea. 2000 May 1;19(3):333-5.