

In Per Operative Complication of Phacoemulsification

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ABSTRACT

Aim: To analyze inter operative complications of Phacoemulsification done during six months period from May 2016 to October 2016 at the department of Ophthalmology BVH Hospital Bahawalpur

Methods: This observational, non comparative study was conducted in department of Ophthalmology Unit I, BV Hospital Bahawalpur

Patients of 20 years and above were included. We included cataract of all grades except those causing phacomorphic glaucoma. Diabetic and hypertensive patients were also included. Pre operative evaluation included slit lamp and fundus examination with +90D lens, if possible keratometry and A- scan biometry.

Results: Total number of patients who underwent Phacoemulsification was 200. Mean age was 57.21 ±13 years. Intra operative complications occurred in 18(9%) patients. The most common complication was posterior capsular rupture. It was treated by sclera sulcus fixation of PMMA posterior chamber I.O.L supported by capsulorhexis

Conclusions: Keeping in view the frequency of all about mentioned complication, Phacoemulsification is a relatively safer procedure, provided the surgeon has good experience of ECCE.

Keywords: IOL – Intra ocular lens, ECCE – Extra capsular Cataract Extraction, PC – Posterior Chamber, AC-Anterior Chamber,

INTRODUCTION

Cataract Extraction is the major bulk of the Ophthalmic Surgery¹. Extra Capsular Cataract Extraction with posterior chamber lens implant is still the most popular form of Cataract Surgery in our country. Phacoemulsification^{2,3,4} with excellent results is getting popularity day by day. It is because of added benefit of the less astigmatism and rapid visual and physical rehabilitation. Small wound size facilitates rapid healing.

Charles Kelman³ introduced Phacoemulsification in 1967. It is associated with large number of complications (Per operatively) by the surgeons in learning curve. More common complications are striate keratopathy, posterior capsule rupture, vitreous loss, iris capture, dropped nucleus or its fragments and wound burns. Presently phacoemulsification is the most common procedure for cataract extraction with I.O.L. (Intra ocular lens) implantation.

Purpose of surgery is to analyze inter operative complications of Phacoemulsification done during six months period from May 2016 to October 2016 at the department of Ophthalmology BVH Hospital Bahawalpur

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MATERIALS AND METHODS

This observational, non comparative study was conducted in department of Ophthalmology Unit I, BV Hospital Bahawalpur. Patients of 20 years and above were included. We included cataract of all grades except those causing phacomorphic glaucoma. Diabetic and hypertensive patients were also included.

Pre operative evaluation included slit lamp and fundus examination with +90D lens, if possible keratometry and A- scan biometry.

Surgical procedures were performed by three consultants of good experience of ECCE e IOL implantations. All phacoemulsification were done under peribulbar anesthesia achieved by xylocaine with or without adrenaline. A 2.75mm limbal incision was made at 11 clock position and 1.5 mm incision at 2 clocks for chopper. Aqueous humor in anterior chamber was replaced by hydroxy methylcellulose. Continuous curvilinear capsulorhexis performed with cystotome made of 26 gauge needle. Hydrodissection was done with 23 gauge flat tipped canula and nucleus rotation was done with lens dialer through side port. Central sculpting was done with 25 gauge straight phaco-tipp covered with sleeve. Parameters used with opticon (Pulsar) phaco machine as US 1 having energy (Power) 50-60%, vacuumed 50 mm of Hg and flow rate of 22 mm per minute. US 2 energy 40-50% vacuum 300-350 mm of Hg and flow rate of 24 mm per minute. Emulsification of the nucleus was done by divide and conquer method.

Cortical lens matter was aspirated with curved Simco irrigation aspiration canula . The condition of the posterior capsule clear or primary posterior capsular thickening was noted. Either single piece foldable 6.0mm optic diameter intra ocular lens (Rayner) UK. Or 5.5 mm optic diameter single piece intra ocular lens (Chirrus) was implanted in the back. For implementation of 5.5 diameter incision at 11 clock was extended with 5.5mm keratome. Viscoelastic in the eye was aspirated. Anterior Chamber was maintained with normal saline and in some cases, air injected into the anterior chamber. Stromal hydration with normal saline at the incision site with 27 gauge needle was done. A combination of injection dexamethasone and gentamycin was injected in the sub conjunctival space. Intra operative complications when encountered were noted on standard proforma.

RESULTS

Total number of patients who underwent Phacoemulsification was 200. Mean age was 57.21±13 years. Intra operative complications occurred in 18(9%) patients. The most common complication was posterior capsular rupture. It was treated by sclera sulcus fixation of PMMA posterior chamber I.O.L supported by capsulorhexis as shown in table 1. Table 2 shows high percentage of male patients who had posterior capsule rupture.

Table 1

Inter operative Complications	n	%age
Posterior capsule rupture	10	5
Converted to ECCE	4	2.25
P.C Rupture with Nucleus drop	1	0.5
Focal Zonular dehiscense	1	0.5
Iris Damage	1	0.5

Table 2: Distribution of complication according to gender

Inter Operative Complication	n	Male	Female
P.C Rupture with sclera sulcus fixation	10	7(70%)	3(30%)
Converted to ECCE	04	1(25%)	3(75%)
P.C Rapture with Nucleus drop anterior vitrectomy done	01	0	1(25%)
Focal Zonular dehiscence	01	1(25%)	0
Iris Damage	01	0	1(25%)

DISCUSSION

The age of cataract surgery is unusually different in different populations. Mean age in our patients was 57.21 13± years. Dholakia SA and Vasavada AR⁷. from India have reported mean age of 59.12±8.56. The slightly less mean age in our study is because we included traumatic cataract which occur in younger age group. Posterior capsule rupture with sclera sulcus fixation of P.C I.O.L occurred in 5% cases which is comparable to study of Mihir Kottani et al who have reported the occurrence of vitreous loss in 5% of phacoemulsification patients. In our study , only 4 (2.12%)cases were converted to standard extra capsular cataract extraction. Hussain M Durrani J and Nisar A⁵ have reported conversion to ECCE in about 2% cases. Posterior capsule rupture with dropped fragments of nucleus occurred in one case (0.5%). Comparable reported by Grillard GD, Hutton WL⁶ and fuller DG as 0.3%. Focal zonular dehiscence and iris damage, each occurring in one case (0.5%).

CONCLUSIONS

Keeping in view the frequency of all about mentioned complication, Phacoemulsification is a relatively safer procedure , provided the surgeon has good experience of ECCE.

REFERENCES

1. Tahir MY, Baid RA, Ashrif KM, Babar M, Qazai ZA. Comparative Study of endothelial cell loss after phacoemulsification by using 2 % Hydroxy Methyl Cellulose Versus 2.3 % Sodium Hyaluronate (Healon 5) PJO1998:vol24: 175-8.
2. A comparative analysis of the first hundred and subsequent one-fifty cases. PJO 1998: vol 14:83-5.
3. Kelman CD. Phacoemulsification and aspiration: A new technique of cataract removal: a preliminary report. Am J Ophthalmol 1967: 64: 23 cited by Daider Sa. Awan Ah. Complication encountered in 373 consecutive cases of Phacoemulsification and their visual outcome. Pak J Ophthalmol 1999; 15 (4) 142-4.
4. Adrain RK , Halepota FM. Phacoemulsification under topical with intracameral Vs Retrobulbar and sub-tenon anaesthesia. Pak J Ophthalmol 2008: 24 143-6.
5. Hussain M, Durrain J, Nasir A. Phaco-emulsification: a review of 210 cases. Pak J Ophthalmol 1996: 12 38-43.
6. Gilliland Gd, Hutton WL, Fuller DG . Retained intravitreal lens fragments after cataract surgery. Ophthalmology 1992: 99 1263- 77.
7. Dholakia SA, Vasavada AR Interoperative performance and long term outcome of Phacoemulsification in age – related cataract Indian Ophthalmology 2004;52:311-7.