

## Comparison of 50 cases of Cataract extraction in two methods Extra-Capsular Cataract Extraction and Phaco-emulsification

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### Abstract:

**Objective:** Comparison of two methods of Cataract Extraction at Baqai Medical University.

**Material and Methods:** This study is a one and a half year duration June 2021 to January 2023 conducted in Baqai Medical Hospital Ophthalmology Department. Data and patient were collected from Eye OPD, all patients were examined in the department and patients were thoroughly checked. Lab investigations were done in the laboratory, surgery was conducted in operation theatre. All patients were checked according to the performa and post-operative details were maintained for one and half month.

**Result:** 80% of patients have visual acuity 6/60 pre-operatively, on first evaluation after 3 days 40% have visual acuity of 6/60 with pin hole. After two weeks visual acuity was 6/18 in more than 80% cases in case of phaco-emulsification. In case of Extra Capsular Cataract Extration 40% have visual acuity 6/36 post-operative after 3 days and 80% have visual acuity 6/12 after 2 weeks. Final visual acuity after 2 months in both types of surgeries was the same.

**Conclusions:** Evaluation suggest that phacoemulsification is a good option as surgery takes less time, no sutures are applied and surgery is under topical anaesthesia, Sub-tenon or sub-conjunctival but the drawback is machine is very expensive.

In case of Extra Capsular Cataract Extraction the surgery is long between 20 to 30 minutes, retrobulbar injection and suture were applied which have to removed after 45 days.

**Keywords:** Phacoemulsification, Extra Capsular Cataract Extraction, IOL

### Introduction:

Pakistan is among the 10<sup>th</sup> largest population in the world, most of the people are living in rural areas.<sup>1</sup> Most important cause of blindness in Pakistan is Cataract which is nearly 45 Million in the world.<sup>2</sup>

Cataract is preventable cause of blindness.<sup>3-10</sup> We require a proper OPD, proper instruments and proper operation theatre. If we focus on Karachi there are appreciable private hospitals and NGOs but still 3.8 Million are getting blind due to Cataract and 80% belong to developing countries like Pakistan.<sup>10-15</sup>

### Material and Methods:

Study conducted in Baqai Medical University in

the last one and half years we divided surgery in 2 groups one was Extra Capsular Cataract Extraction and other group is Phacoemulsification with PC IOL.

The patients were screened in OPD, blood sugar, blood pressure, Hepatitis B and C assay was conducted along with CBC. All patients were examined on Slit Lamp Applanation tonometry was done, fundus was examined on 90D Lens and if the Cataract was dense fundus was examined by Indirect Ophthalmoscope. In 3 patients we referred them for B-Scan as our machine was out of order.

Extra Capsular Cataract Extraction was done, first retrobulbar injection was applied, after

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Table 1:

Age Group	Male	Female
50-60	6	6
60-70	2	8
70-80	7	7
80-90	6	8
Total	21	29

Table 2: Visual Acuity

Visual Acuity	Pre-operative	Post-Operative after 45 days	Percentage
6/12 – 6/18	10	30	60%
6/18 – 6/60	20	10	20%
6/60 – 3/60	18	5	10%
3/60 or less	2	5	10%
	50	50	

Table 3: Comparison between Phaco-emulsification and Extra Capsular Cataract Extraction.

Visual Outcome	Phaco	ECCE
After 45 days	Same	Same
Astigmatism	None	Present
Patient satisfaction	More	Average
Suture	None	To be removed after 45 days

povidone hydrochloride paint and washing by saline, opsite was applied, microscope adjusted corneal incision was given by number 11 blade incision enlarged by corneal scissor, Capsullerhexis done, lens nucleus expressed cortex removed by simco canula rigid IOL put in position anterior chamber washed, 3 sutures 10-0 nylon applied dressing done.

In phacoemulsification topical or subtenon injection applied, two side port created at 9 o'clock and 3 o'clock. 3.5 mm phaco knife passed in anterior chamber between 10 to 11 o'clock position of limbus, Capsullerhexis done 2 methods were used Stop and chop and submarine chop nucleus was broken into pieces and in memory two which is vacuums 350mm and power 50mm was applied pieces were removed, cortex removed by simco canula foldable IOL applied dressing done.

**Results:**

Causes of Poor vision in 10 Case

- Glaucomatous Optic Atrophy 1
- Bullous Keratopathy 2
- Endophthalmitis 1
- Retinal Detachment 1
- Retinitis Pigmentosa 4
- Posterior Capsular Rent 1

**Discussion:**

Cataract is a leading cause of blindness in our country.<sup>1</sup> Initially between 1950 and 1990 the surgery was intracapsular Cataract Extraction and patient were aphakic and glasses prescribed. In mid 80s i.e. in 1986 Microscope was introduced in Pakistan later in 1990 there was introduction of phaco machine. IOL (Intra Ocular Lens) came into market in 1994 onwards. Baqai Hospital is first private sector hospital in Pakistan where the faculty was present in 1993 onward. Phaco machine was purchased in 1998 so the surgery of phaco started in late 1998. Microscope is Takagi OMS5, Phaco Machine is Laurette Alcon. As hospital is charitable we are just charging utilities used in surgery. All patients are examined under slit lamp and Applanation tonometer is used for IOP measure. Fundus examined by 90D and Indirect Ophthalmoscope, after 45 days of Extra Capsular Cataract extraction we remove suture and final correction was 70% between 6/6 to 6/18 which is good.

2 complications which were noted in 50 patients were in one patient Endophthalmitis and in one case Vitreous loss. Vitreous loss was 2% in our study international study of vitreous loss is between 6 to 41.<sup>5-12</sup> Study in Malavi found vitreous loss to be 11%.<sup>10</sup> Endophthalmitis in our study is 2% in international data it is 0.06%.

The study was conducted after approval of Ethical Committee of Baqai Hospital.

**Conclusion:**

Our experience working in public sector hospital last 30 years reveals that in Pakistan is very poor 90% this sort of charitable facility is ap-

preciable. Thanks to the contribution of NGOs, normally the cost of surgery extend between 50 to 150,000 in private hospitals.

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**Role and contribution of authors:**

Ali ul Mehdi Musa, collected the data and references.

Abdul Khaliq, helped in writing the introduction.

Foaz Malik, collected the references.

Mir Amjad Ali, helped in discussion writing.

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2. Dr. Shehla Darashani, Helped in writing the introduction. Professor Lyari General Hospital Karachi
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