

Evaluation of visual outcome of 500 cases of cataract surgery using phacoemulsification technique in Pakistan Eye camp

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Abstract

Objective: To evaluate visual outcome of cataract surgery performed in eye camps in rural area.

Material and Methods: The current cross sectional work was conducted in the eye camp at the rural Sindh area of District Shakirpur. The data was collected from the two eye camps each comprising of 250 cases, during first week of September in the year 2018 and 2019. After taking baseline investigations all the 500 cases underwent phacoemulsification cataract surgery. The demographic data, clinical findings, complications and the outcome was recorded on a proforma, and the results were tabulated.

Results: Pre-operatively 500 eyes operated 51% had visual acuity less than 3/60 which is blind according to WHO, 41% of the procedure done on bilateral blind. At discharged 10% had visual acuity of 6/60 or less 30% had visual acuity 6/18. At 8 weeks follow-up 80% obtain visual acuity of 6/18 or better 3% had eye pathology, 1.4% had corneal decompensation

Ethical approval taken by Authority

Conclusion: This evaluation suggest that phacoemulsification surgery is possible in camp but surgeon should be trained, remember majority of population is poor in Pakistan. This surgery is beneficial to 70% to 80% of population which is in there reach as no charges are taken.

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Introduction:

Pakistan is 6th most thickly populated county in the world with more than 220 million population.¹ More than 65% of peoples live in rural area of Pakistan.² Life expectancy is 63 years for female and 62 years of male. Worldwide there are 45 million blind people with visual acuity less than 3/60. At least 80% of these peoples live in developing counties and half are blind due to cataract.³ Study says 3.8 million people are getting blind annually.⁴ Traditionally the results of cataract surgical services is reported as total number of cataract surgery performed each year. The audit look at visual outcome of patient benefit after cataract surgery in camps.⁵

Material and Methods:

Study included 500 patients with senile cataract which underwent phaco surgery at rural Sindh District Shakirpur Village Nabi Soomro. The camps were conducted in 2018-19 and survey was done for both camps for 8 weeks duration post-operatively. All patient surgery was done by phaco emulsification and IOL applied.

Before surgery slit lamp examination was conducted and Ophthalmoscopic examination done where needed. Cataract with white pupil were selected in majority phaco machine, Alcon laureates and surgicon machine was used for phaco and patient was discharged on second post-operative day. The recording of vision and examination was carried out every 10 days for

Table 1: Age group

Age Group (years)	No of Cases (%)		
	Male	Female	Total
51-60	100	120	220
61-70	80	90	170
71-80	40	30	70
81-90	03	20	23
91-100	02	15	17

Table 2:

Visual acuity	N=500		N=500	
	Pre-operative patient	Percentage	Post-operative 8-weeks follow up	Percentage 8-weeks follow up
6/6 to 6/18	125	26%	395	79%
6/18 to 6/60	105	21%	80	16%
6/60 to 3/60	20	4%	07	1.4%
3/60 or less	250	50%	14	2.9%
Total	500	100%	500	100%

Table 3: Causes of poor vision in 15 patients

Cause	No of Cases (%)		
	Male	Female	Total
Retinitis Pigmentosa	01	02	03
Glaucomatous Opticatrophy	01	02	03
Corneal Opacity	00	02	02
Other Posterior Segment Pathology	01	04	05
Endophthalmitis	01	01	02

eight weeks.

All surgeries was done on retrobulbar and facial injections. 3.5 mm phaco knife used at 10 to 11 O'clock, Two side port by 1.5 mm phaco knife at 3 O'clock and 9 O'clock was given. Capsulorhexis was done, hydro-dissection and hydro-delineation was done, Phaco divide and conquer and chop technique was used, Cortex was removed by simcoe canula IOL applied & air introduce in Anterior chamber, dressing was done

Results:

Total 500 patient was operated, 45% were male and 55% were female. Age range was between 50 to 100 years.

Bilateral cataract with visual acuity 3/60 was present in 41% of cases, unilateral cataract in 6.7% and 3.3 had cataract in their only eye. Cat-

aract was mature in 85%, hyper mature in 3.9% immature in 9.8% Subluxated in 0.4%

Discussion:

Cataract is leading cause of blindness in Pakistan.¹ The management of cataract is always surgery.⁶ As 70% of population of Pakistan lives in rural areas camps are the best and easy approach for majority.⁷ WHO says visual acuity of less than 3/60 is legally blind.¹ In this study 50% of surgery was done on patients who's visual acuity was 3/60.^{18,19} 41% of patient performed on bilaterally blind eye, 3% of patient did not improved and visual acuity was 3/60 after 8 weeks follow-up. We took Ethical approval by competent authority.

This is detail of two camps held on consecutive years 2018 & 2019 at Nabi Soomro Village which is at junction of Baluchistan and Sindh. The camp was 5 days duration, 2 days were fixed for out patient department. OPD was provided with slit lamp, indirect ophthalmoscope, applanation tonometer, blood pressure and blood sugar were tested. Biometry was done. We were fortunate that local boys were good volunteers we selected 250 patients for each camp. First two day camp was open from 8 am to 5 pm. From third to fifth day we did open OPD in the morning session and after a break of one hour we started surgery till 2 am.

Microscope were Takagi Japan and Phaco Machine Laurette Alcon USA and surgicon Itlay, we did 100 cases per day there were two surgeons, in the next morning dressing was opened and post operatively medicine were given and patients discharged and was advice to attended OPD every 10 days and follow-up was done for 8 weeks.

Operative complication were low, vitreous loss occur in 6% of cases recent articles from developing counties show vitreous loss from 7 to 41%.⁹⁻¹² Study in Malawi found vitreous loss to be 11%.¹⁰ The study of 500 patient reveal that in good mobile unit this cataract surgery with phaco-emulsification is possible. The incidence of complication are comparable to well equipped

hospital.¹⁶⁻¹⁸ Endophthalmitis was 0.4% which is low.¹⁹⁻²⁰ We have an experience of 15 years as Eye surgeon and we think that for 70% for our population it is gift as they need not to pay any amount. The only problem is lack of fund and lot of patient are left and have to wait for another camp which will take one more year.

Conclusion:

Our experience suggest that phaco-emulsification surgery is possible in camp but surgeon should be trained. We need to remember majority of population is poor in Pakistan. This surgery is beneficial to 70% to 80% of population who approached these eye camps.

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Role and contribution of authors:

Dr Mir Amjad Ali, collected the data, references and did the initial write up.

Dr Mashood Uz Zafar, critically review the article and made useful changes.

Dr Shehla Darashani, collected the data and helped in writing the introduction.

Dr Nusrat Shah Khan, collected the data, references and helped in discussion writing.

Dr Iftikhar Ahmed, collected the data and helped in interpretation of data.

Dr Zaheer Sultan, collected the references and helped in material and methods and discussion writing.

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