

# Early Results of Cataract Surgery at Mechi Eye Care Centre in Nepal

**Sanjay Kumar Singh MD**

*Ophthalmologist In-charge*

**Tulasi Dahal**

*Ophthalmic Assistant*

**Divya Sharma**

*Ophthalmic Assistant*

*Mechi Eye Care Centre*

*Post Box No 3*

*Jhapa, Nepal*

## Introduction

Mechi zone is located in the eastern region of Nepal and has a population of 1.2 million. According to the Nepal Blindness Survey in 1981<sup>1</sup> the prevalence of blindness in this zone was 0.64%. The most important cause of blindness in Nepal was cataract, accounting for two thirds of Nepal's blindness.

The people of the eastern region of Nepal had to go either to the neighbouring zone or across the border to India for detailed ocular examination and intraocular surgery. Since the Mechi Eye Care Centre was established, on 1 December 1996, it has provided the facilities for ocular examination and for surgery. Cataract surgery is the main operation performed in the Centre. In this study we included the total cataract operations performed in our Centre during the period 1 December 1996 to 15 May 1998. We have not included the data of cataract operations carried out as

part of the outreach activities of the Mechi Eye Care Centre.

## Patients, Surgery and Follow-up

A total of 783 eyes were operated on in this period (Table 1). The ratio of male (50.4%) to female (49.6%) was nearly equal. Operations were done on the right eye (49.4%) and on the left eye (50.6%). Ninety-six percent of the patients were Nepalese in origin, 3% were Indian and 1% were Bhutanese refugees.

The most common type of cataract was age-related cataract, most often a mature cataract (Table 2). As our Centre does not have the facility to provide general anaesthesia we could not operate on children with congenital cataract unless they were more than twelve years of age and able to cooperate.

Surgery was done under the Takagi OM-5 microscope. Extracapsular cataract extraction with posterior chamber intraocular lens implantation was the routine procedure. Sometimes, if indicated, we performed intracapsular cataract extraction with anterior chamber intraocular lens implantation. Lens implantation was done under air in the anterior chamber, however viscoelastics were used occasionally if the intraoperative IOP was high and there was difficulty with lens implantation. Suturing was done with 10/0 nylon sutures. Subconjunctival gentamicin was given

only if there was conjunctival discharge or conjunctival congestion.

Post-operatively, patients were examined on the slit-lamp. On the first day they were examined by the ophthalmologist. Patients were discharged on the first post-operative day and were called after one week for follow-up. At their subsequent visit they were examined either by the ophthalmologist or by the ophthalmic assistant. If any complication was noted then the ophthalmologist was notified immediately. Refraction was done every time at the first visit and where possible, thereafter.

## Pre-operative and Post-operative Visual Acuties

On the first post-operative day only 7.3% of the patients had presenting vision worse than 3/60 and 40% of the patients had vision equal to or better than 6/18. On the first return visit to hospital only 5.8% had presenting vision worse than 3/60 and with refractive correction only 0.2% were blind. With refractive correction nearly 91% of the patients had vision equal to or better than 6/18. There was a significant improvement in vision noted after surgery and minor refractive correction.

## Causes of Blindness after Cataract Surgery

The following are the causes of low, uncorrected vision after surgery, found on the first post-operative day.

Aphakia was the important cause for the

**Table 1: Cataract Surgery on 783 Eyes at Mechi Eye Centre**

	Male		Female		Total
	RE	LE	RE	LE	
Cataract extraction with PCIOL	178	182	170	185	715 (91.3%)
Cataract extraction with ACIOL	11	11	11	7	40 ( 5.1%)
Aphakia	10	3	7	8	28 (3.6%)
Total	199 (25.4%)	196 (25%)	188 (24%)	200 (25.5%)	783

**Table 3: Visual Acuties in 1374 Eyes Presenting with Cataract**

Visual Acuity	Numbers
<3/60	1094 (79.6%)
>3/60—6/36	253 (18.4%)
>6/36—6/24	24 (1.7%)
>6/18—6/6	3 (0.2%)
Total	1374

**Table 2: Cataract Types Presenting at Mechi Eye Centre**

Type	Numbers
Age-related cataract	1221 (94.7%)
Congenital	25 (1.9%)
Traumatic	21 (1.6%)
Complicated	13 (1%)
Dislocated lens	10 (0.8%)
Total	1290

**Table 4: Post-operative Uncorrected Visual Acuties in 783 Patients Receiving Surgery**

Visual acuity	Day 1	Week 1	Month 1	Month 2
< 3/60	57 (7.3%)	36 (5.8%)	11 (5%)	1 (2.1%)
3/60—6/60	95 (12.1%)	64 (10.2%)	12 (5.5%)	4 (8.3%)
6/36—6/24	297 (37.9%)	274 (43.8%)	90 (41.1%)	20 (41.7%)
6/18—6/6	313 (40%)	236 (37.7%)	102 (46.6%)	23 (47.9%)
Not mentioned	21 (2.7%)	16 (2.6%)	4 (1.8%)	
Total	783	626 (79.9%)	219 (27.9%)	48 (6.1%)

**Table 5: Post-operative Corrected Visual Acuities in Patients Returning for Follow-up**

Visual Acuity	Week 1	Month 1	Month 2
< 3/60	1 (0.2%)		
3/60—6/60	7 (1.2%)		
6/36—6/24	36 (6.3%)	2 (1%)	2 (5.1%)
6/18—6/6	515 (90.5%)	189 (97.4%)	36 (92.3%)
Not mentioned	10 (1.8%)	3 (1.6%)	1 (2.6%)
<b>Total</b>	<b>569</b>	<b>194</b>	<b>39</b>

**Table 6: Causes of Blindness after Surgery (1<sup>st</sup> Post-operative Day)**

Causes	Numbers
'Aphakia'	16 (2%)
Posterior capsular opacity	4 (0.5%)
'Poor fundal glow'	4 (0.5%)
Optic atrophy	3 (0.4%)
Retinal scar	3 (0.4%)
Corneal opacity	2 (0.3%)
Retinal detachment	2 (0.3%)
Phacomorphic glaucoma (previous)	2 (0.3%)
Posterior synechia	1 (0.1%)
Maculopathy	1 (0.1%)
Age-related macular degeneration	1 (0.1%)
Macular hole	1 (0.1%)
Retinal haemorrhage	1 (0.1%)
<b>Total</b>	<b>57</b>



*Spectacles after cataract surgery*

Photo: Pak Sang Lee

In Nepal, cataract is still the major cause of blindness. Some centres are carrying out extracapsular cataract extraction with posterior chamber intraocular lens implantation while other centres are doing intracapsular cataract extraction and prescribe spectacles afterwards. In our view, as the quality of vision is better with IOL implantation and intraocular lenses are available at cheaper prices, intraocular lens implantation is a cost-effective procedure after extracapsular or intracapsular cataract extraction.

presenting, *uncorrected* vision to be less than 3/60. Other important causes were often due to posterior segment disorders present before the surgery.

#### ECCE versus ICCE

Both of the procedures have certain advantages and disadvantages. ECCE offers well-known advantages:<sup>2</sup> low frequency of vitreous loss and cystoid macular oedema, but still the risk of opacification of the posterior capsule. Twenty-one percent of the patients had posterior capsular opacification at follow-up.<sup>3</sup> Intracapsular cataract extraction is a reasonably successful, appropriate and cost-effective procedure. It is particularly suitable for treating the increasing number of blind cataract patients in areas of the world where resources are limited.<sup>4,5,6</sup> However, of 235 aphakic patients followed for 1-10 years in Karnali, Nepal only 23% were wearing aphakic spectacles in good condition, 25% had lost or broken their spectacles, 31% were wearing scratched or repaired spectacles, 5% never received spectacles and 16% were dissatisfied.<sup>7</sup>

#### Conclusion

Extracapsular cataract extraction with intraocular lens implantation is a procedure with less sight threatening and eye threatening complications, in the hands of an experienced surgeon. Technical expertise can be learned with practice. In our country where aphakic glasses are not easy to buy in many parts of the country, IOL implantation during cataract surgery in eye hospitals and eye centres is a better alternative to aphakic correction with spectacles.

#### References

- 1 Brilliant G E, Pokhrel R P, Grasset N C, Brilliant L B. The Epidemiology of Blindness in Nepal. The Seva Foundation, 1988.
- 2 Queguiner P. La cataracte. *Clinique ophthalmologique* 1990; **1**: 31-3.
- 3 Ruit S, Robin A L, Pokharel R P, Sharma A, Defaller J. Extracapsular Cataract Extraction in Nepal: 2 - Year Outcome. *Arch Ophthalmol* 1991; **109**: 1761-1768.
- 4 Schwab L. Cost effective cataract surgery in developing nations. *Ophthalmic Surgery* 1987; **18**: 307-309.
- 5 Schwab L, Whitfield R. Appropriate ophthalmic surgical technology in developing nations. *Ophthalmic Surgery* 1982; **13**: 991-993.
- 6 Anderson S R, Masanganise R. Cataract Blindness in Masvingo Province Zimbabwe: Results of Surgery and Recommendations. *J Comm Eye Health* 1992; **10**: 6-8.
- 7 Hogeweg M, Sapkota Y D, Foster A. Acceptability of aphakic correction - results from Karnali eye camps in Nepal. *Acta Ophthalmologica* 1992; **70**: 407-412. □

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