

An Audit of 100 Cases of Phacoemulsification Cataract Surgery

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One hundred cases of phacoemulsification surgery of a final year trainee were analysed retrospectively. The visual outcome and complication rate was compared with the literature. The final visual acuity of 6/12 or better was achieved in 81% of cases. The rate of complications was comparable to the U.K. National Cataract Audit Results.

Key words Phacoemulsification, cataract surgery, resident, vitreous loss, capsular opacity

The cataract surgery is a frequently performed surgical procedure during ophthalmic surgical training. The purpose of this audit was to compare the surgical outcome of a final year trainee (specialist registrar) with UK national audit results.^{1,2}

Methods

The standards were taken from national cataract audit.^{1,2} Data was collected retrospectively on 100 cases of cataract operated by the author (ZK) from July 1998 to September 1999. The data was entered onto a *Microsoft Access* database for analysis. Patients with incomplete records were excluded from analysis.

Results

In the present study 64% cases were females and 49% were 80years or older. There was a higher percentage of general health problems in the sample (*Fig 1*). The ocular comorbidity is shown in *Fig. 2*. There was a slightly better visual acuity at the time of listing the patients in the study. The 60% of the cases were done as a day case, while the 96% had a local anaesthesia. Out of the 96 cases that had local anaesthesia, 65 had sub-tenon injection with a cannula, 25 had sub-conjunctival injection in the area of corneal incision. All the cases in this study were operated by phacoemulsification technique compared with 77% in standard. All the cases had phacoemulsification, using divide and conquer technique in 65% cases and phaco-chop technique using Green's chopper in the rest.

The Table 2 shows comparison of visual rehabilitation. The 68% of cases with ocular comorbidity had final visual acuity of 6/12 or better compared with 77% in standards. There were 5% complications during the surgery in our cases compared to 7.5% in standards (Table 3). The table 4 shows events within 48 hours of surgery. There were no cases of endophthalmitis or retinal detachment within 3 months of cataract surgery in our study compared to 0.1% of the each complications in standards. We noted 6% cases to have posterior capsular opacity compared to 0.4% in the standards.

Discussion

The UK national cataract audit^{1,2} included data on 18,454 patients and provides excellent opportunity for any surgeon to compare and improve his or her surgical results. There was a slightly older population in the study, which

was reflected in a higher incidence of general health problems and ocular comorbidity. It also resulted in a higher percentage of inpatients (Table 1). The early postoperative visual results (Table 2) were slightly less than standards due to transient corneal oedema (13%). Ah-Fat et al³ reported 27% incidence of corneal oedema in cases operated by experienced surgeons converting to phacoemulsification. In the study 10% of the cases had a rise in intraocular pressure, which came back to preoperative level in all cases without any further medication. The final visual results were slightly less than standards due to higher incidence of the Age Related Maculopathy and glaucoma in the sample.

The overall incidence of events during surgery was 5% compared to 7.5% in the standards. This is similar to 5.1% incidence reported for the surgery performed by residents in another study⁴. There was 2% incidence of posterior capsular rupture and vitreous loss. This is much better than 10% incidence of vitreous loss reported by Thomas et al⁵ for their residents. The 2% incidence of vitreous loss in current study is quite comparable to 1.4% incidence described by Ng et al⁶ and 1.3% reported by Martin and Burton⁷ in their studies of phacoemulsification performed by the experienced surgeons. At the discharge from follow up at 6 weeks or more 6% cases were noted to have posterior capsular opacity. Two of these cases had Fuch's heterochromic uveitis, while 1 case had pseudoexfoliation syndrome. The prior knowledge of unstable capsular bag might have resulted in incomplete lens cortical clean up and hence an early posterior capsular opacity.

Table 1 Details of the admission and technique.

	Present Study	Standards
Type of admission:		
Day case	60%	70%
Inpatients	40%	30%
Anaesthesia		
Local	96%	86%
General	4%	14%
Technique		
Phacoemulsification	100%	77%
ECCE*	0%	23%

*Extracapsular cataract extraction

Table 2 Details of postoperative visual acuity.

	Present Study	Standards
Day 1:		
6/12 or better	70%	77%
6/18 & 6/24	25%	20%
6/60 or less	5%	3%
Final VA:		
6/12 or better	81%	86%
6/18 & 6/24	16%	12%
6/60 or less	3%	2%

Table 3 Complications during surgery.

	Present Study	Standards
Anterior chamber haemorrhage	1%	0.5%
Iris emulsification	1%	0.3%
Persistent iris prolapse	1%	0.07%
Capsular rupture & Anterior vitrectomy	2%	4.4%
Loss of nuclear fragment into vitreous	0%	0.3%
Loss of intraocular lens into vitreous	0%	0.16%
Choroidal haemorrhage	0%	0.1%
Others	0%	1.67%
Total	5%	7.5%

Table 4 Events within 48 hours of surgery.

	Present Study	Standards
Corneal oedema	13%	9.5%
Raised IOP	10%	7.9%
Hyphaema	1%	1.1%
Uveitis	0%	5.6%
Endophthalmitis	0%	0.03%
Wound leak	1%	1.2%
Any of the above	25%	23.3%

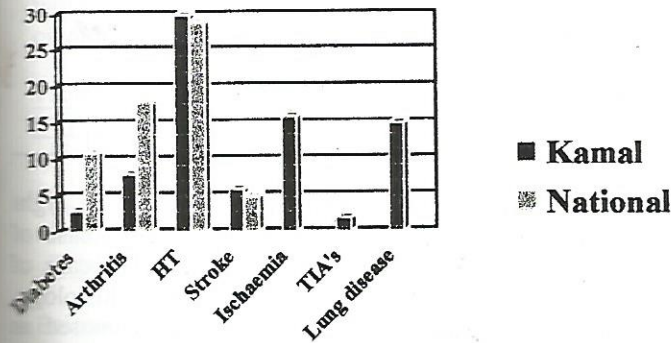


Fig. 1 General health comparison between the study and standards

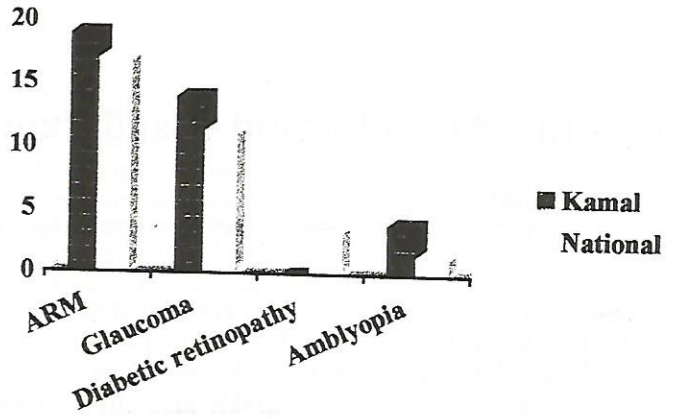


Fig. 2. Preoperative ocular comorbidity

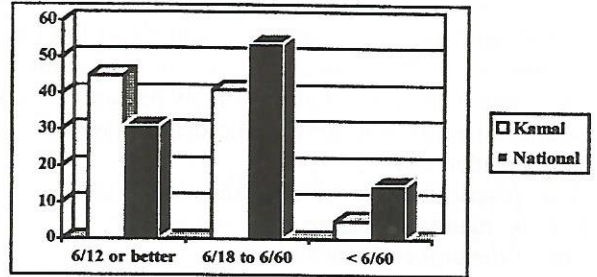


Fig.3 Pre-operative visual acuity

Conclusion

The cataract surgery performed by a final year trainee was within standards of UK national audit. Most of the results were comparable or better than results reported for the residents.

Acknowledgment

The author wants to thank Mr Steve Briggs, Clinical Audit, Addenbrooke's Hospital, Cambridge, UK for his assistance in the study.

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