

Cataract Extraction In West Malaysia

An evaluation of
743 Cataract Extractions
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INTRODUCTION

Cataract is a common eye affliction of the old and successful surgical removal of the cataractous lens allows the patient to regain good vision. This study is undertaken to evaluate (i) the results of cataract extractions in West Malaysia and (ii) the age group and racial distribution of the cataract subjects.

Only patients with senile and presenile cataracts were included in this series. Cataracts resulting from trauma, uveitis, or associated with other ocular disease and those associated with general disease other than diabetes, were excluded.

MATERIALS AND METHODS

During the period 1968 – 1972, 743 cataract extractions were carried out at the University Hospital, on 671 patients, aged 30 and over. Pre and post-operative visions were recorded. In all cases, the post-operative visual acuity accepted was the latest that was available. This applied to all cases and especially in those following complications, where the final visual acuity was accepted. Chloramphenicol drops were instilled into the conjunctival sac twenty-four hours before operation. Extractions were done under general anaesthesia and only those considered unsuitable for general anaesthesia were done under local anaesthesia. Two types of sections were used.

(a) Graefe Section. This was the technique used on 430 cases operated on between 1968 and

mid 1970. This section was mainly corneal with no conjunctival flap and the incision closed with three to four sutures of 6/0 silk, which were removed between the tenth and twelfth post-operative day.

(b) Ab externo. On 313 cases ab externo section with Bard Parker and corneoscleral scissors with a limbus-based conjunctival flap was employed. The incision was closed with four to five buried sutures of 8/0 virgin silk.

Peripheral iridectomy was done routinely and sector iridectomy in selected cases.

Until mid 1970 the lens was delivered by Aruga's forceps; hypermature lens by erisophake or Smith's expression method. When a cryo extractor was available, this became the method of choice.

From the fourth post-operative day onwards, local steroids were instilled into the operated eye. Those with Graefe section were kept until sutures were removed between tenth and twelfth day and those with buried virgin silk sutures were discharged between fifth and seventh day.

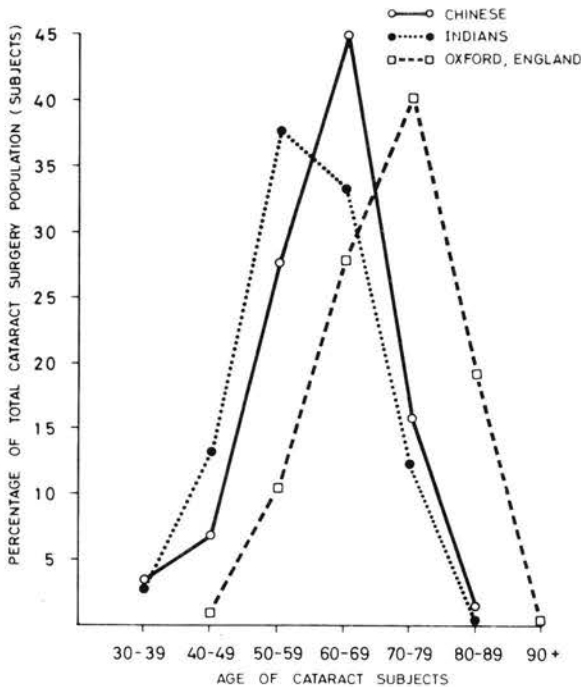
RESULTS

Age and Racial Distribution, Table 1, Figure 1.

The age incidence of cataract extraction shows a peak between fifty and seventy years. This is a decade earlier than the Oxford Group studied by

Caird et al. Among the Indians there was a relatively higher proportion within the 50 – 60 group. Chinese who make up 37% of the population account for 54% of the patients whereas Indians who only make up 12% of the population account for 39%.

FIG. I



Grouping by Morphology, Table II.

The maturity of the cataract was noted pre-operatively. This knowledge was useful during the routine use of capsular forceps. Just over one half were immature and 39% were mature and of these nearly 15% were hypermature.

Operative and Post-operative complications.

Of 743 lens extractions, 599 were intracapsular lens extraction and the rest were extracapsular. In the extracapsular group, 29 were done electively in patients under 35 years old, the remaining 135 were unplanned.

At operation the major complication was vitreous loss and this occurred in 40 cases (Table III). During the early years when cryo extraction was not available, the Smith's expression method and erisophake were used in hypermature cataracts. These methods of extraction resulted in a higher incidence of vitreous loss.

During the early post-operative period there were eighteen cases of hyphaema (Table IV), of which 3 occurred in diabetics, and one was associated with vitreous loss and another with iris prolapse. The latter requiring resuturing. All cases cleared spontaneously with bed rest.

There were seventeen cases of iris prolapse, 14 of which occurred in cases done with Graefe section technique.

There were 14 cases of marked anterior uveitis, which required subconjunctival steroids and mydriatics. Three cases required systemic therapy. Nine of these cases had extracapsular extraction, and one was associated with iris prolapse.

There were 42 cases of loss or shallowing of the anterior chamber making a total of 5.5%. 28 of these cases recovered spontaneously, while 14 or over 1/3 required surgical intervention. In the group that recovered spontaneously, 3 were due to choroidal detachment, 2 due to air in the posterior chamber and 9 followed the removal of corneoscleral sutures. The surgical methods employed for reforming the anterior chamber were as follows:- with air only (6); air plus iridectomy (5); and incision of anterior hyaloid face (3).

Post-operative endophthalmitis occurred in 2 cases. Coagulase-positive staphylococci was isolated in one but none in the other. The final visual acuity was P.L. in the former and 6/60 in the latter. These cases occurred during the first two years of the period of study.

Of the late complications, glaucoma developed in 11 cases. Four of these cases were the result of flat anterior chamber, and one was associated with uveitis, and another with post-operative hyphaema. There were three cases of retinal detachment, three cases of corneal dystrophy and two cases of epithelial invasion of the anterior chamber.

POST-OPERATIVE VISUAL ACUITY

Our follow-up rate was high. All but 19 of the 743 eyes were refracted by us. Over 80% had a preoperative vision of 6/60 or less. The post-operative visual results are discussed under 3 headings.

(a) Series as a whole (Table V)

Post-operatively corrected vision of 6/18 and better was achieved by 85% and vision of 6/6 and above was obtained by 35%. This latter group could have been larger had there been closer co-operation between the patient and the refractionist. In this multi racial/dialect society there is often a communication difficulty and the patient who is refracted to 6/6 usually communicates easily with the refractionist.

(b) Cases with operative complications (Table VI)

The poorest results came from the group that required surgical reformation of the anterior chamber (14 cases). Nine ended up with vision of less than 6/60 and the rest had vision no better than 6/24. Those with vitreous loss fared better and 29 of these had 6/18 and better while five had vision of less than 6/60. In the group that developed glaucoma, 5 had vision of 6/24 to 6/60 and 4 had vision of less than 6/60.

(c) Cases with fundal complications

Fundal complications were seen in 24 cases. These consisted of senile macular degeneration (8), myopic degenerative changes (5), diabetic retinopathy (8), and optic atrophy (3), most of these had a vision of 6/24 or less.

DISCUSSION

In this retrospective study the results of 743 cataract extractions performed over a five year period are evaluated. These extractions were done by six ophthalmologists with varying surgical experience and a small number by the trainee staff. No attempt has been made to separate the results of these two groups in this study.

The overall incidence of vitreous loss of 5.4% compares unfavourably with other surveys (Vail

1965 3.7%). Before cryo extraction, attempts to remove hypermature lens intracapsularly by Smith's expression resulted in vitreous loss in 3 out of the 11 cases when the Erisophake was used occasionally for mature and hypermature lens, there was a loss of vitreous in 3 out of 41 cases (7%). Vectis had to be resorted to on 8 occasions when the lens became subluxated or lying free. Our incidence of vitreous loss with cryo extractions is 3.7%. Cryo extraction has reduced the chief operative complication of vitreous loss. This has been found to be the case in many retrospective studies (Seedorf 1968, Croll 1968).

Of all the postoperative complications those with flat anterior chambers which required surgical intervention, were responsible for the poorest visual results. There were 42 cases with shallowing or loss of the anterior chamber, an overall incidence of 5.5%. 14 of these required surgical intervention. In E. Cotlier's Study on aphakic flat anterior chambers (1972) the incidence was 7.58% in a series of over 8,500 extractions; one out of five requiring surgical intervention. The visual results in our 14 cases are analysed in Table VI. It is noteworthy that all these 14 cases had wound sections with the Graefe technique, with no conjunctival flap using 6/0 silk sutures. The sutures were removed around the 10th post-operative day. Removing these sutures in uncooperative patients were not without danger and 9 cases developed shallowing of the anterior chamber after suture removal. Of 17 cases of iris prolapse, 14 followed Graefe section. There is no doubt that in our series, the complications arising from poor wound healing were more frequently encountered with the Graefe technique than the ab externo technique. In the latter half of this series, the former technique was abandoned and now ab externo is routinely used. Since then, flat aphakic anterior chambers and iris prolapse are very infrequent complications.

This series of cataract extractions involved the 3 main ethnic groups, namely: Malays, Chinese and Indians. But as only 6% of the extractions were Malays, the following discussion is confined to Chinese and Indians.

The Chinese made up 54% of the total extractions, and the Indians contributed to 39%. 72% of these patients who had cataract extractions were between the ages of 50 and 70 years old. This peak age group is a decade earlier than the peak age group for cataract extractions in patients studied by Caird et al (1965) (Table 1, Figure 1). Our patients are not only younger but they also come to operation when their vision is markedly impaired. Over 80% had a preoperative vision of 6/60 or less, and 38% of the cataracts were mature at the time of operation. Patients over the age of 70 represented only 15% of our extractions. 45% of Chinese extractions were in the 60's while 28% were between 50 and 59 years. In the Indians only 33% were in the 60's while 38% were between 50 and 59. All these points are demonstrated in the graph, which shows a shift to the left for the Malaysian, with the shift being more marked in the Indians than in the Chinese. Indians are relatively younger when they had a cataract extraction. However, we have as yet no evidence that cataracts are more prevalent in Indians though they contribute to 39% of our extractions when in the general population they form a mere 12%. The Indians predominate possibly because they prefer to attend public hospital rather than seek private treatment. Nevertheless, there is an impression that cataracts appear to be more prevalent among the Indians.

SUMMARY

The results of 743 cataract extractions in West Malaysia have been evaluated. 6/18 or better vision was obtained in 84% of extractions, out

of which 35% achieved a vision of 6/6 or better. The poorest visual results were seen in those cases which developed post-operative flat anterior chambers which required surgical intervention. The majority of this group had a final visual acuity of less than 6/60 and the best vision obtained was no better than 6/24. Compared with the Graefe section method post-operative complications such as flat anterior chamber, iris prolapse, were fewer with the ab externo method. The peak age group incidence of cataract in Malaysians was a decade earlier than the Oxford series and this shift is more marked in Indians than the Chinese.

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AGE AND RACIAL DISTRIBUTION

Age	Chinese	%	Indians	%	Malays	Total	%
30-39	15	3.4	8	2.7	1	24	3.2
40-49	24	6.7	39	13.3	3	66	8.9
50-59	111	27.6	110	37.7	16	237	31.9
60-69	184	45.0	98	33.4	12	294	39.7
70-79	62	15.8	36	12.5	14	112	15
80+	9	1.5	1	0.4		10	1.3
	405	100.0	292	100.0	46	743	100.0

TABLE II

GROUPING OF CATARACT BY MORPHOLOGY

Type	No.	% of Total
Immature	402	54
Mature	243	33
Hypermature	41	5
Uncertain	57	8

TABLE III

METHOD OF LENS DELIVERY AND VITREOUS LOSS

Method	No.	% of the total	No. of vitreous total	% of the loss
Capsule forceps	398	53.5	24	6.0
Cryo-extractor	264	35.5	9	3.7
Erisophake	41	5.5	3	7.2
Elective extra capsular	29	3.9	1	3.4
Smith (Expression)	11	1.5	3	27.2
	743	100.0	40	5.4

TABLE IV
COMPLICATIONS OF OPERATION

Complications	No.	Percentage
Total No. of operation	743	
Operative		
Vitreous loss	40	5.0
Early Post-operative		
Hyphaema	18	2.4
Iris Prolapse	17	2.3
Anterior Uveitis	14	1.9
Flat Anterior Chamber	14	1.9
Infection	2	0.3
Late Post-operative		
Glaucoma	11	1.4
Retinal Detachment	3	0.4
Corneal Dystrophy	3	0.4
Epithelial downgrowth	2	0.3

TABLE V
VISUAL RESULTS AFTER CATARACT
EXTRACTION
(Series as a whole)

Visual Acuity	No. of eyes	% of Total
Defaulters	19	2.6
No P.L.	7	0.9
Less than 6/60	46	6.2
6/60 to 6/24	49	6.6
6/18 to 6/9	364	49.0
6/6 & better	258	34.7
	743	100.0

TABLE VI
VISUAL RESULTS OF COMPLICATED
CASES

Visual Acuity	Iris Prolapse	Flat Anterior Chamber	Anterior Uveitis	Vitreous Loss	Glaucoma
No P.L.	—	2	2	1	2
Less than 6/60	—	7	5	4	2
6/60 to 6/24	6	5	2	6	5
6/18 to 6/9	8	—	5	20	2
6/6 & better	3	—	—	9	—
	17	14	14	40	11