Results

RESULTS

Number of cases :40 eyes for 40 patients were submitted to this study without any age or sex selection .These cases are followed for at least 6 months , up to35months with a mean of 18.4 months .

Sex distribution of cases :

Males : 22 55%

Females : 18 45%

Age:

The patients age in this study ranged from 4 to 73 years with a mean age of 33.5 years .The number of cases in each age group is shown in table (1).

The duration of the surgical procedure took75 minutes in early cases. This time was reduced to about 35 minutes after few cases The eye was opened(hypotony) for a short time during this procedure . Passage of sutures through the eye was done while the eye was closed . Tying the sutures to IOL haptics were done through a small limbal incision 2mm .

Age in years	Number of cases	Percentage of cases
1-10	9	22.5%
11-20	9	22.5%
21-30	3	7.5%
31-40	2	5%
41-50	5	12.5%
51-60	6	15%
61-70	5	12.5%
>70	1	2.5%
Total	**40**	**100%**

Table(1) showing age distribution of cases

In this study cases were divided into 5 groups according to the indication of surgery :

Group 1 Previous cataract operation : complicated by ruptured post capsule during E.C.C.E. or planned I.C.C.E. 21 cases (52.5%) .

Group 2 Rupture globe: 13 cases (32.5%) had rupture globe complicated by ruptured posterior capsule with vitreous prolapse in anterior chamber.

Group 3 Traumatic subluxation of crystalline lens: one case(2.5%) .

Group 4 Pseudophakodenesis :The IOL was implanted on an improper capsular support or zonular tears in 3 cases (7.5%).

Group5 Posterior dislocation of I.O.L: In 2cases (5%) the IOL was dislocated posteriorly into vitreous cavity through large capsular or zonular defect. The IOLs were explanted , and resutured once again .See figure(22).

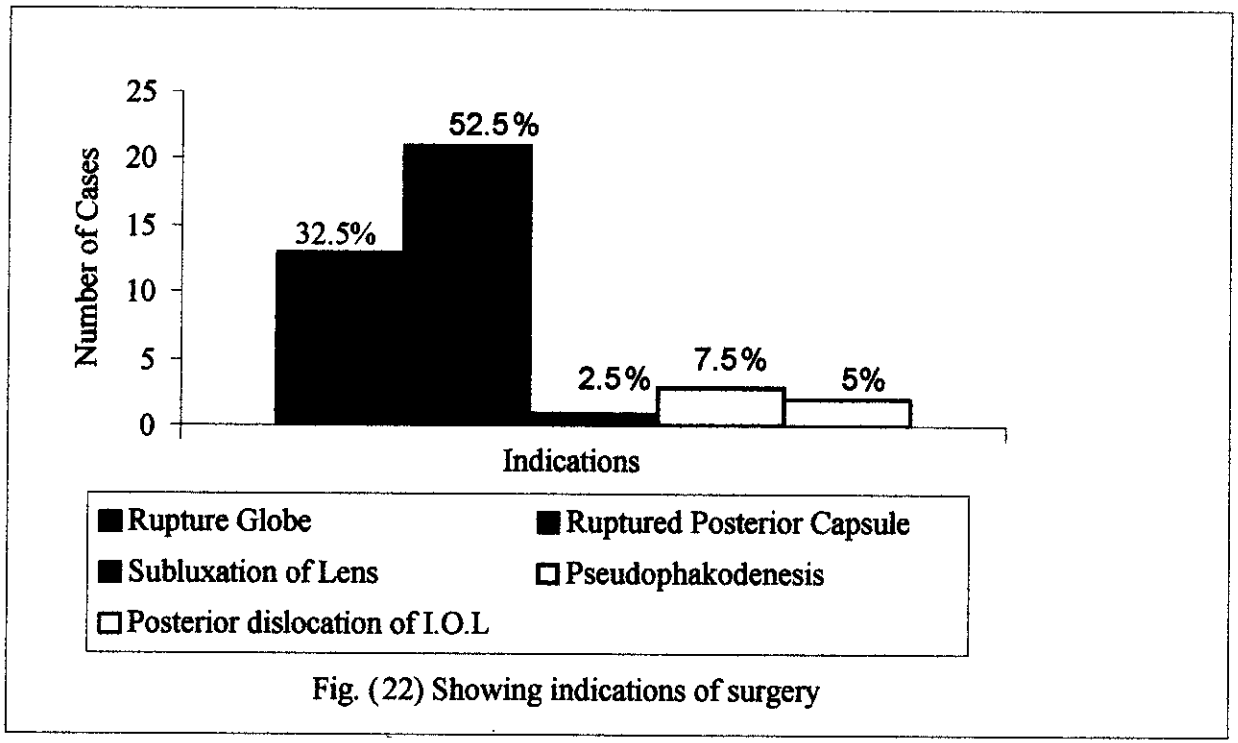

Fig. (22) Showing indications of surgery

Visual acuity One week post operative:

Postoperative visual acuity at the end of the first week ranged from 1/60 to 6/9 ,a mean of 6/36 SD ±0.147. 11cases (27.5%) ranged from 1/60 to 3/60 .11cases(27.5%) ranged from 4/60 to 6/60 . 15 cases (37.5%) ranged from 6/36 to 6/18 .3 cases (7.5%) ranged from 6/12 to 6/9 see(table 3).

Visual acuity	Number of cases	% of cases
1/60	4	10%
2/60	3	7.5%
3/60	4	10%
4/60	2	5%
5/60	3	7.5%
6/60	6	15%
6/36	9	22.5%
6/24	3	7.5%
6/18	3	7.5%
6/12	2	5%
6/9	1	2.5%
6/6	0	0
Total	**40**	**100%**

Table (3) Showing visual acuity distribution one week postoperative

Visual acuity One month postoperative :

One month postoperative visual acuity ranged from 2/60 to 6/6 .A mean of 6/24 SD ± 0.247. 4 cases 10% ranged from 2/60 to 3/60 .7cases 17.5% ranged from 4/60 to 6/60. 21 cases 52.5% ranged from 6/36 to 6/18 . 8 cases 20% raged from 6/12 to 6/6 . see table(4).

Visual acuity	Number of cases	% of cases
1/60	0	0
2/60	1	2.5%
3/60	3	7.5%
4/60	4	10%
5/60	0	0
6/60	3	7.5%
6/36	8	20%
6/24	6	15%
6/18	7	17.5%
6/12	2	5%
6/9	4	10%
6/6	2	5%
Total	40	100%

Table (4) showing visual acuity distribution one month post operative

Visual acuity six months postoperative :

Six months post operative vision ranged from 3/60 to 6/6 .A mean of 6/18 ± 0.241 2 cases (5%) had vision of 3/60. 7 cases (17.5%)had vision range from 4/60 to 6/60. 22 cases (55%) had vision range from 6/36 to 6/18. 9 cases (22.5%) had vision 6/12 to 6/ 6. See table(5) .

Figure (23) showing frequency distribution of visual acuity preoperative, and six months postoperative.

Visual acuity	Number of cases	% of cases
1/60	0	0
2/60	0	0
3/60	2	5%
4/60	3	7.5%
5/60	2	5%
6/60	2	5%
6/36	8	20%
6/24	8	20%
6/18	6	15%
6/12	3	7.5%
6/9	4	10%
6/6	2	5%
Total	**40**	**100%**

Table (5) showing visual acuity distribution six months postoperative.

Patient No.	VA preoperative	VA 1week postoperative	VA 1 month postoperative	VA 6 months postoperative	VIR 6 months postoperative
1	3/60	2/60	3/60	3/60	1
2	2/60	2/60	4/60	4/60	2
3	6/12	6/18	6/6	6/6	2
4	6/9	6/9	6/6	6/6	1.5
5	3/60	3/60	3/60	4/60	1.25
6	6/60	6/36	6/36	6/12	1.33
7	6/9	6/12	6/9	6/9	1
8	6/24	6/36	6/60	5/60	0.33
9	6/36	6/24	6/18	6/12	2
10	4/60	6/60	6/36	6/36	2.2
11	6/60	6/36	6/36	6/36	1.33
12	6/24	6/36	6/24	6/24	1
13	4/60	4/60	6/36	6/36	2.5
14	4/60	6/36	6/18	6/18	5
15	6/24	6/36	6/18	6/18	1.33
16	1/60	6//18	6/18	6/18	20
17	1/60	6/24	6/18	6/18	20
18	6/18	6/24	6/24	6/24	0.66
19	6/24	3/60	6/36	6/36	0.66
20	1/60	1/60	6/12	6/18	19.5
21	6/12	6/60	6/18	6/9	1.33

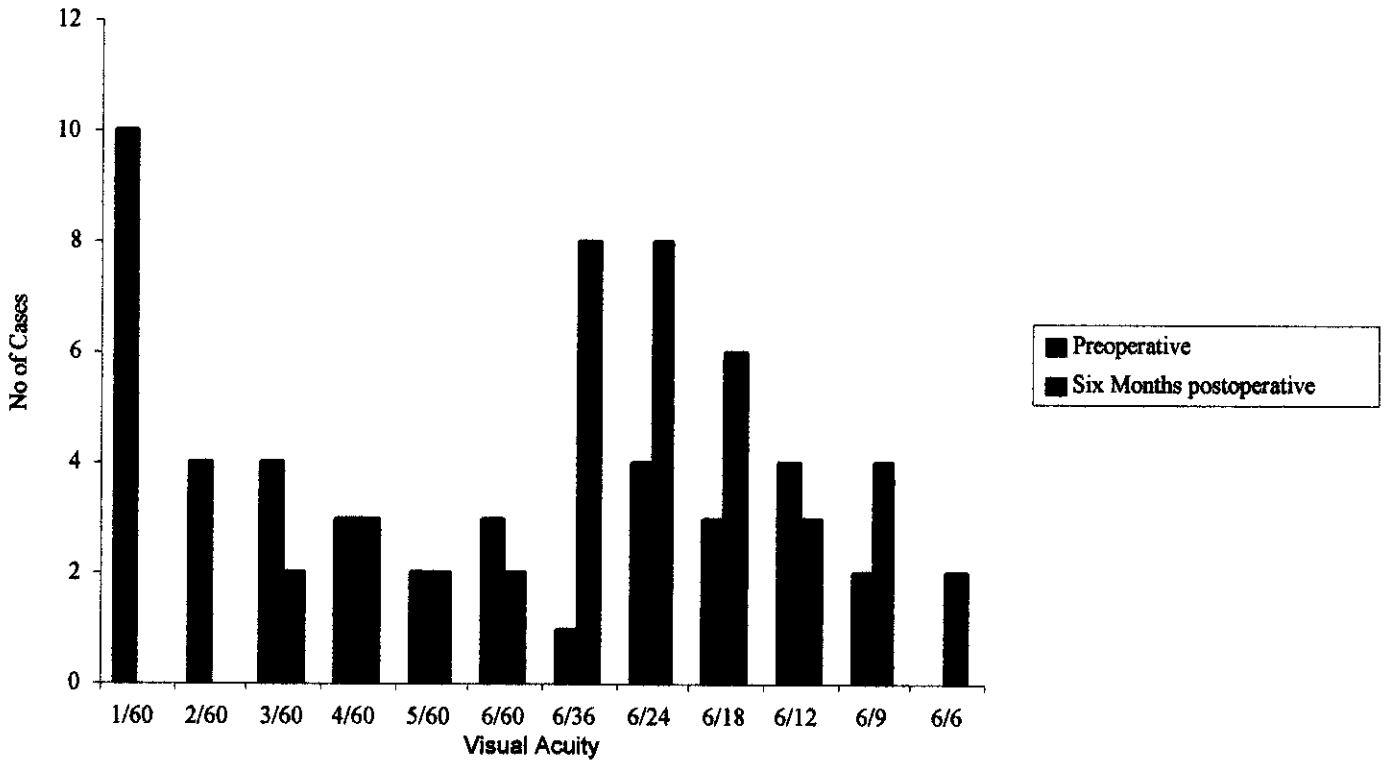

Fig (23) Showing visual acuity changes from preoperative to six months postoperative

Visual Improvement ratio : (VIR)

To summarize the amount of change in visual acuity from preoperative to post operative the VIR is measured by dividing postoperative visual acuity by preoperative visual acuity .

Six months postoperative the VIR ranged from 0.5 to 40 a mean of 6.36 std ± 11.75 . 4cases 10% had VIR =1 meaning no change in visual acuity see table (6).

5 cases 12.5% had VIR <1 meaning deterioration of visual acuity postoperative. 31 cases 77.5 % had VIR >1 meaning improvement of visual acuity

Intra ocular pressure (IOP) changes

Preoperative intra ocular pressure could be measured by applanation tonometer in 33cases from 40 cases . Intraocular pressure could not be measured by applanation tonometer in 7 cases due to presence of central corneal scars. Intraocular pressure ranged from 11 to 24 mmhg a mean of 15.5 sd ± 4.44 .One week post operative the IOP ranged from 11 to 22 a mean of 15.5 sd ±3.3.Mean percentage change from preoperative value was +3.25% . P value >0.05 (statistically not significant). One month post operative IOP ranged from 11 to 26 a mean of 15.8 sd ±3.6 .Mean percentage change from preoperative value was +4.6 %. P value was>0.05(statistically not significant) .Six months post operative IOP ranged from 11 to 28 mmhg a mean of 16.4 sd ±4 .Mean percentage change from preoperative value was +9.1%.P value was >0.05 (statistically not significant). See table (7). Figure (24) showing percentage changes of intraocular pressure preoperative one week one month and six months postoperative.

Postoperative intraocular pressure was raised over 24 mmhg in 3 cases during period of follow up.

In one case post operative increased I.O.P. was steroid induced. Tension was raised in another2 cases due to improper anterior vitrectomy

vitreous was clogging anterior chamber angle.

I.O.P.	preoperative	1week postop	1month postop	6month postop
Mean in mmhg	15.5	15.5	15.8	16.4
±SD	4.4	3.3	3.6	4.0
Mean% change from preop. value		+3.2%	+4.6%	+9.1%
Paired- t value		0.18	0.58	1.43
P value		>0.05(NS)	>0.05(NS)	>0.05(NS)

Table (7) showing changes in intra ocular pressure preoperative and postoperative in 33 cases

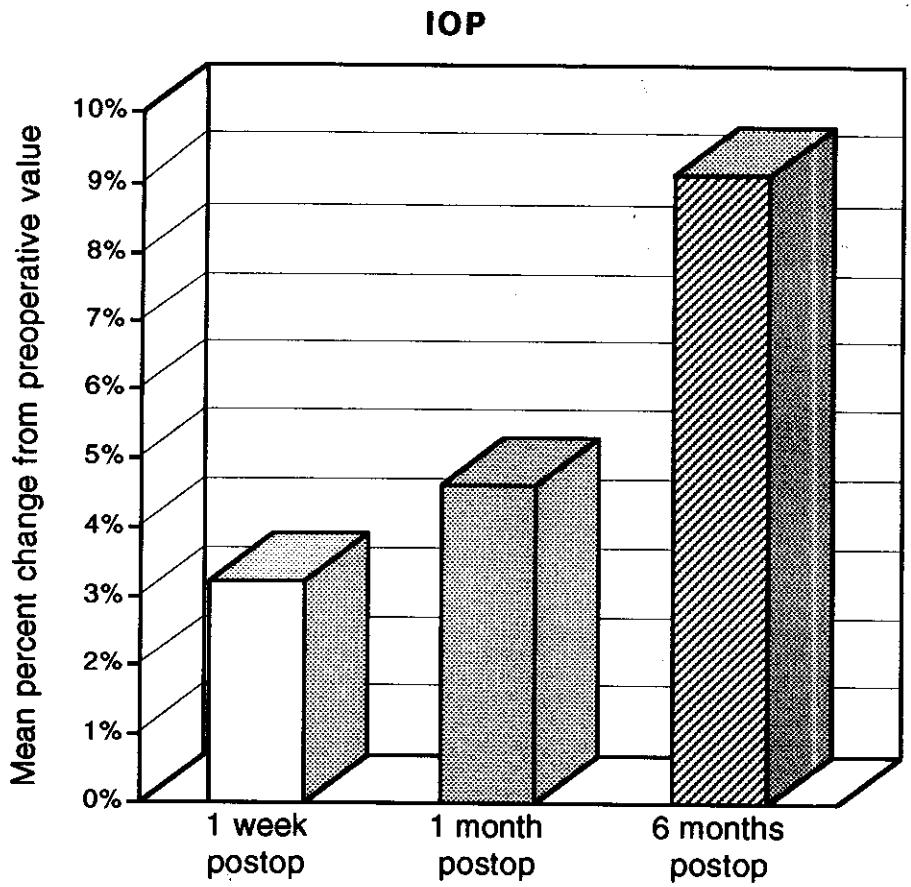

Figure (24) Showing postoperative percentage change in intraocular pressure from preoperative value

Corneal thickness changes

Preoperative corneal thickness ranged from 0.52 mm to 0.58 mm a mean of 0.54mm SD ±0.047 measured by ultrasonic pachymetry . One week post operative the mean corneal thickness was 0.57mm SD ± 0.02 .After one month the corneal thickness ranged from0.52mm to0.6mm mean of 0.55 SD ± 0.018 . Six months postoperative the thickness of the cornea ranged from 0.52mm to0.60mm mean of 0.56mm std ± 0.019 .See table (8)and figure (25)

Corneal thickness in mm	Number of cases			
	Preoperative	One week post operative	One month post operative	Six months post operative
0.52	3	0	3	2
0.53	7	0	0	1
0.54	8	6	6	5
0.55	13	0	10	11
0.56	6	8	13	14
0.57	2	10	4	3
0.58	1	7	1	1
0.59	0	5	1	2
0.60	0	0	2	1
0.61	0	3	0	0
0.62	0	1	0	0
Total	40	40	40	40

Table(8) showing corneal thickness preoperative and post operative

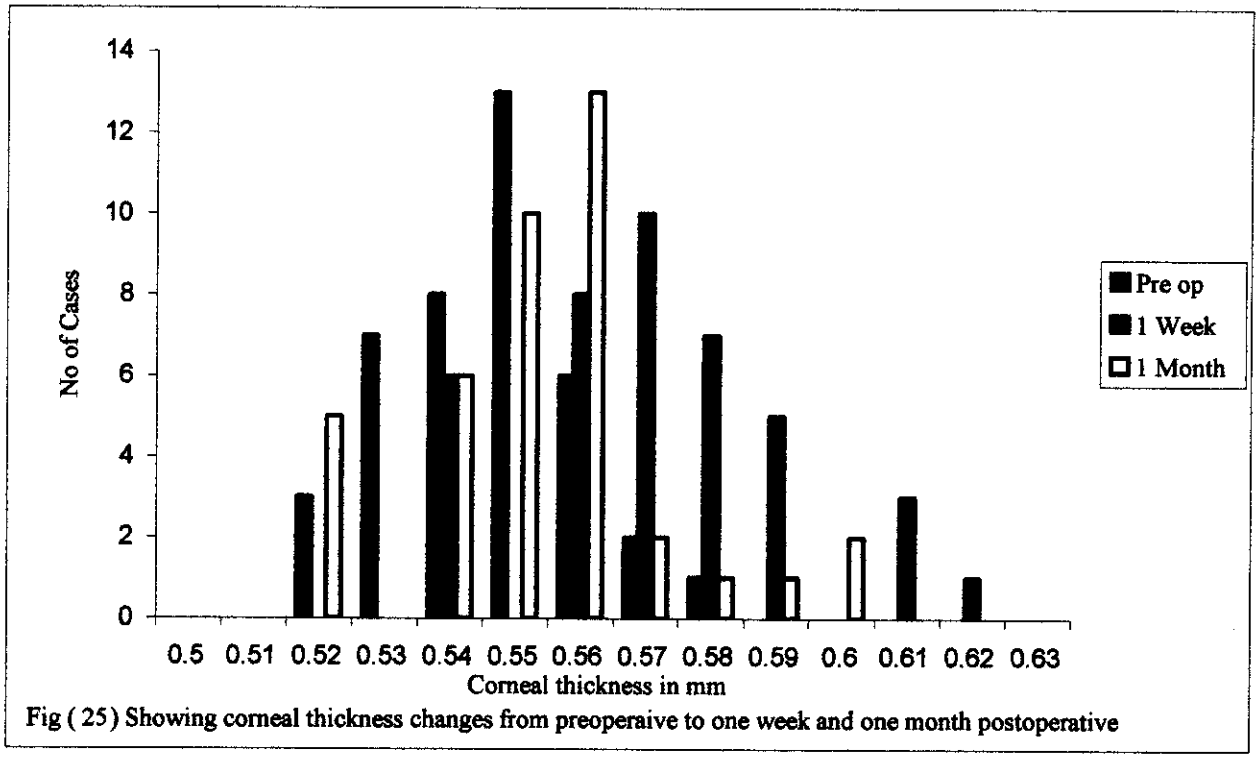

Fig (25) Showing corneal thickness changes from preoperaive to one week and one month postoperative

I.O.L. decentration

In this study we have only 25 cases in which the pupil was rounded and regular so that measuring lens decentration was possible.

The amount of decentration was found to be 0.25mm or less In 18 cases of 25 cases (72%) in which the pupil could allow measurement of decentration. .This amount of decentration was minimal and does not affect vision. In 3cases of 25 cases (12%),decentration was 0.5 mm. One case of 25 cases (4%), decentration was 0.75mm.In2cases of 25 cases(8%), decentration was 1mm .In one case (4%)decentration was 1.5 mm, this was due to improper anterior vitrectomy, vitreous was bulging from nasal side shifting the IOL temporally .See tab(9) and figure (26).

Amount of decentration in mm	**Number of cases**	**% of cases**
0 -----0.25	18	72%
0.25----0.5	3	12%
0.5-----0.75	1	4%
0.75------1	2	8%
1-----2	1	4%
Total	**25**	**100%**

Table(9) Showing the amount of IOL decentration

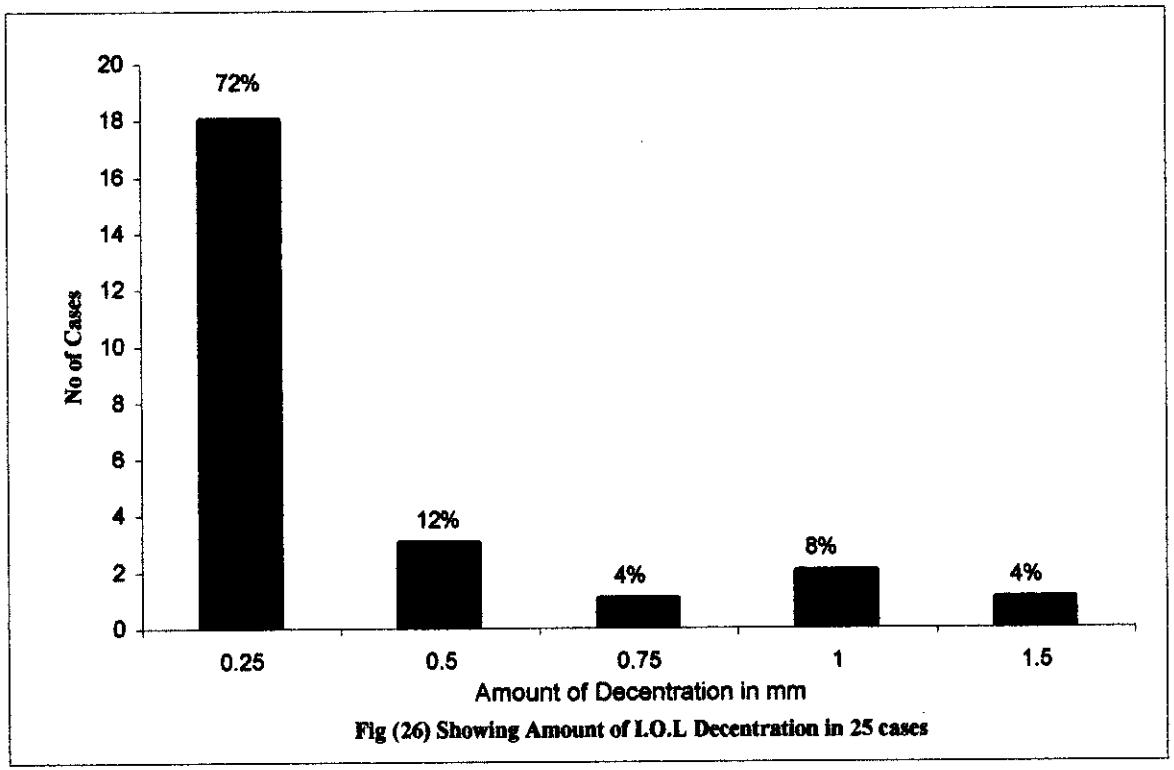

Fig (26) Showing Amount of I.O.L Decentration in 25 cases

Iritis : aqueous flare was found in all cases postoperatively , but differs in severity .In 25cases(62.5%) flare was mild(+), In 11 cases(27.5%) flare was moderate (++). in 4 cases(10%) flare was severe(++++). In all cases of mild and moderate iritis improvement occurred with topical steroid therapy. .In 3cases of these 4 severe iritis, inflammatory membranes were formed. In one case resolution of membrane occurred on topical steroid therapy(Dexamethasone) and atropine eye drops over a period of 2 months. Cyclitic membrane occurred in a child who was 9years old. Pupillary membrane occurred in another 2cases.One of them shown in fig(27) which required surgical incision after 6 months .incision of this pupillary membrane was performed through a corneal stab ,using a tuberculin needle to separate the attachment of the membrane to the pupillary border.

In the case where there was a cyclitic membrane formed behind the lens, a pars plana approach to excise this membrane was done .One month later the anterior vitreous became opacified , anterior vitrectomy using automated vitreous cutter was done through a pars plana approach 2months later .This child gained vision of 6/18 after all these manipulations.

Pigments deposit on anterior surface of I.O.L .occurred in 3cases(7.5%), as a consequence of postoperative iritis.it resolved within 6 months after treatment with topical steroid ,see figure(28)and(29)

Figure (27)Showing inflammatory pupillary membrane.

Figure (28) Showing pigment deposits on anterior surface of the IOL,3months postoperative..

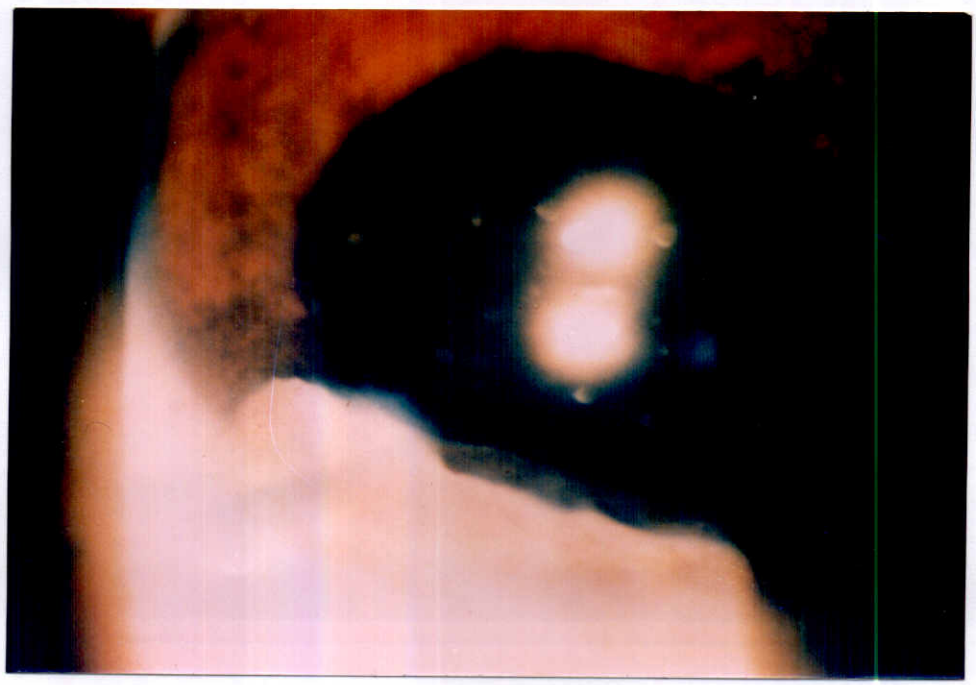

Figure (29) The amount of pigments on anterior surface of the IOL decreased markedly 6 months postoperative .

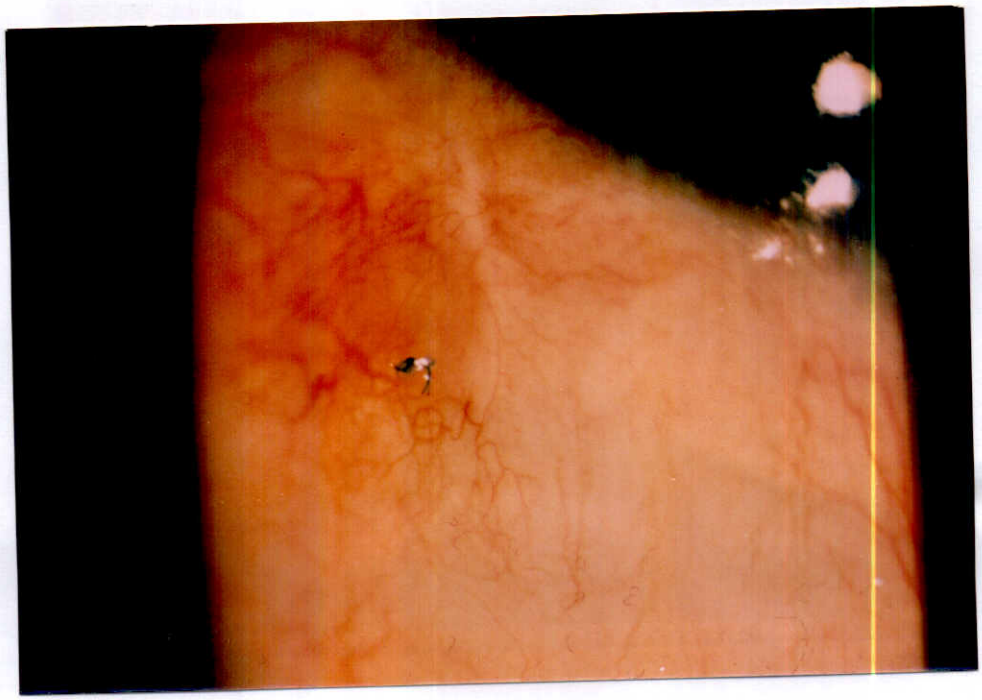

Figure (30) Showing polypropylene knot exposure

- **Staphyloma :** A child 10 years old suffered from ciliary staphyloma at the site of scleral flap .

-Knot exposure :occurred in 3 cases(7.5%) in 2 cases the knot eroded the scleral flap .In the third case the knot was not properly located under the flap so it appeared from under the edge of the flap so conjunctival erosion occurred 8 months post operative . In all 3cases conjunctival covering of the knots was done ,see fig (30).

- **Intravitreal hemorrhage :**Occurred in 5 cases(12.5%) . the amount of bleeding was not large . Intravitreal hemorrhage disappeared within 2 weeks postoperatively .

Cystoid macular oedema :Occurred in one case 2.5% of cases . She was a female 50 years old. Indication for suture fixation of posterior chamber IOL was traumatic subluxation of the crystalline lens .Her corrected preoperative visual acuity was 6/24. Intracapsular cataract extraction was done , followed by sulcus fixation of posterior chamber IOL .Postoperatively the vision was 6/36 uncorrected, 5 months postoperatively her vision dropped to 5/60. Fundus fluoresciene angiography showed that she had developed cystoid macular oedema see fig(35).Four months later she developed macular holewith no change in visual acuity see fig(36).

Retinal detachment : no cases of retinal occurred in this study during period of follow up .

Figure (31) showing suture fixation of IOL after intra capsular cataract extraction drawn up pupil

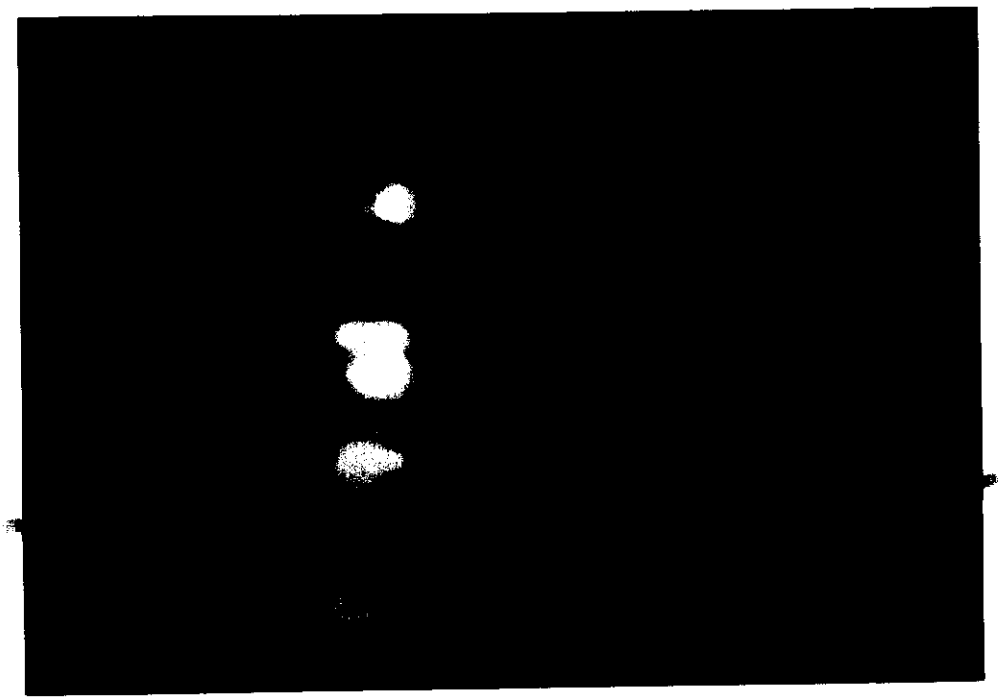

Figure (33) Showing sutured posterior chamber IOL ,with loss of upper part of the iris.

Figure (34) Showing sutured posterior chamber lens with remnants of lens capsule and loss of iris tissue.

Figure (35) Showing cystoid macular oedema 6 months postoperative after suture fixation of IOL.

Figure (36) Showing macular hole following cystoid macular oedema 11 months postoperative .