EARLY FLAT ANTERIOR CHAMBER AFTER TRABECULECTOMY

PRESENTED By
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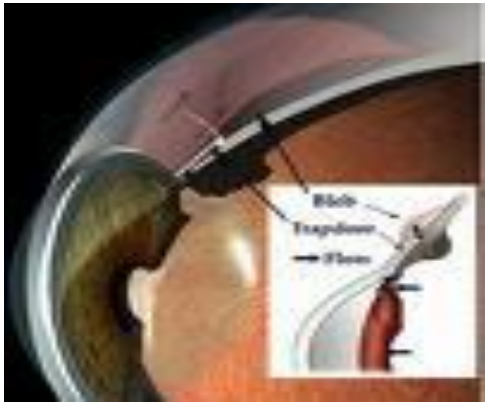


- Early FAC associated with hypotony is an important complication after glaucoma filtering procedures , especially trabeculectomy .

- The reported incidence after trabeculectomy varies widely between 2% to 41% .

- One of the common causes of FAC after trabeculectomy is decreased resistance to aqueous outflow through the sclera with resultant hypotony .

- FAC is classified anatomically into 3 grades :
  Grade 1 : iridocorneal touch limited to the periphery of the iris
  Grade 2 : contact between the entire iris & the corneal endothelium
  Grade 3 : total iris apposition + lens (or vitreous) & cornea contact

- In a study of 1240 cases during the first 2 weeks postoperatively, shallow AC (without iridocorneal touch) was found in 23.9% of cases , iridocorneal touch in 2.3% & corneolenticular touch in 0.2% . ***Edmunds et al Eye 2002***

- Left untreated , FAC may lead to secondary anterior or posterior pole complications . ***Stewart et al Am J Ophthalmol.1988***

COMPLICATIONS

ANTERIOR SEGMENT

- Synechiae

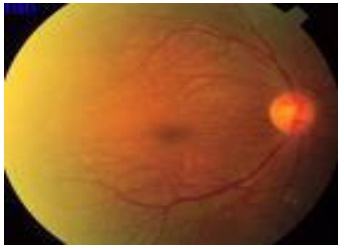
- Cataract

- Corneal decompensation

POSTERIOR POLE

- Choroidal effusion

- Hypotony maculopathy



- Grade 3 FAC in phakic eyes is usually an indication for immediate surgical reformation . However , in grade 2 FAC , the exact timing & nature of initial intervention is less clear .

- An outcome of immediate importance to patients is visual disability after an intervention .

- The ultimate purpose of filtering procedures is to preserve vision by lowering the IOP .

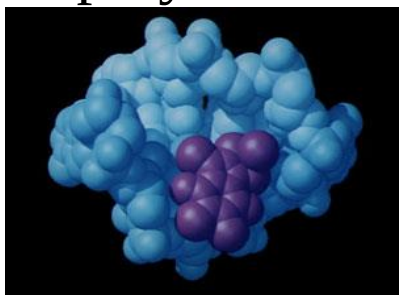
Purpose & Design

Purpose: To evaluate prospectively 3 different approaches to manage FAC because of overfiltration in the early postoperative period after trabeculectomy .

Design: Randomized prospective study.

- All trabeculectomies were performed by a single surgeon using the same technique between 1985 & 1990 .

- Neither releasable sutures nor antimetabolites were employed .



Materials & Methods

Inclusion criteria were:

- Grade 2 FAC within 2 weeks of surgery
- Same FAC the next day of the initial SLE
- The cause of FAC is insufficient resistance to aqueous flow through the sclera confirmed by having : low IOP , high bleb , no leakage , open iridectomy & no evidence of suprachoroidal hemorrhage .

Exclusion criteria was:

- Suprachoroidal hemorrhage noticed pre. or intra. operatively

Failure:

- Persistence , recurrence or progression of grade 2 FAC

IOP success:

- Achievement of predetermined target IOP , or reduction of the IOP greater than 30% relative to preoperative pressure without medications .

36 phakic eyes met the inclusion criteria & were randomly assigned into one of 3 groups

Group 1

• Reforming AC using healon until the entire AC is as deep as deeper than the fellow eye .

Group 2

• Drainage of choroidal effusion + reforming the AC using BSS .

Group 3

• No surgical intervention .Only pharmacological therapy = Atropine + Phenylephrine ± Diamox

Wilcoxon rank sum test + Fisher exact test were used

Results

VARIABLES	GROUP 1	GROUP 2	GROUP 3
# EYES	14	10	12
MEAN AGE	56.8 ± 14.4	67.5 ± 13.5	65.3 ± 21
SEX			
M	6	6	8
F	8	4	4
DIAGNOSIS			
POAG	9	5	8
TRAUMATIC	3	0	0
APHAKIC	0	1	0
CACG	1	3	3
CHANDLER SYNDROME	1	1	0
CONGENITAL	0	0	1
INCIDENCE OF FAC	4.3 ± 2.6d	5.0 ± 2.9d	4.6 ± 2.5d
MEAN F/U	38.4m	30.8m	38.5m

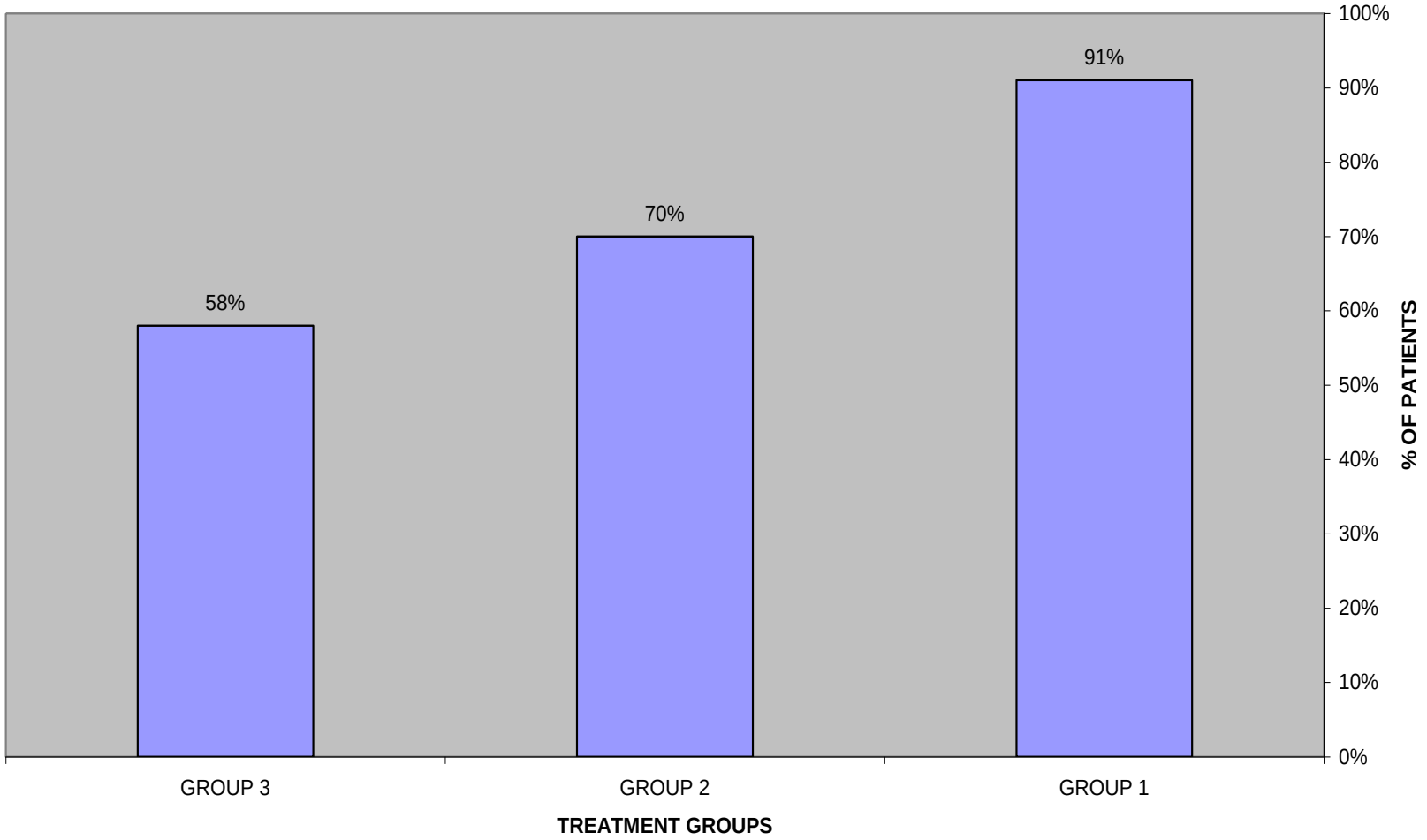
COMPARISON OF 3 GROUPS HAVING ONLY ONE METHOD OF MANAGEMENT

VARIABLE	GROUP 1 N=11	GROUP 2 N=10	GROUP 3 N=12	1 Vs 2 (P)	1 Vs 3 (P)	2 Vs 3 (P)
MEAN LOSS OF SNELLEN LINES	1.2 ± 2.7	3.3 ± 3.2	0.5 ± 2.2			
VISUAL LOSS	-2 (-5.7)	-2 (-10.0)	-1 (-3.5)	0.52	0.17	0.04
IOP FELL > 30%	8 (73%)	6 (60%)	4 (33%)	0.66	0.09	0.39
ACHIEVED IOP TARGET	10 (91%)	7 (70%)	7 (58%)	0.31	0.16	0.67
IOP > 20 mmhg ON MEDICATIONS	1 (9%)	1 (10%)	0 (0%)	1.0	0.48	0.45
REPEAT SURGERY	2 (18%)	3 (30%)	0 (0%)	1.0	0.22	0.08

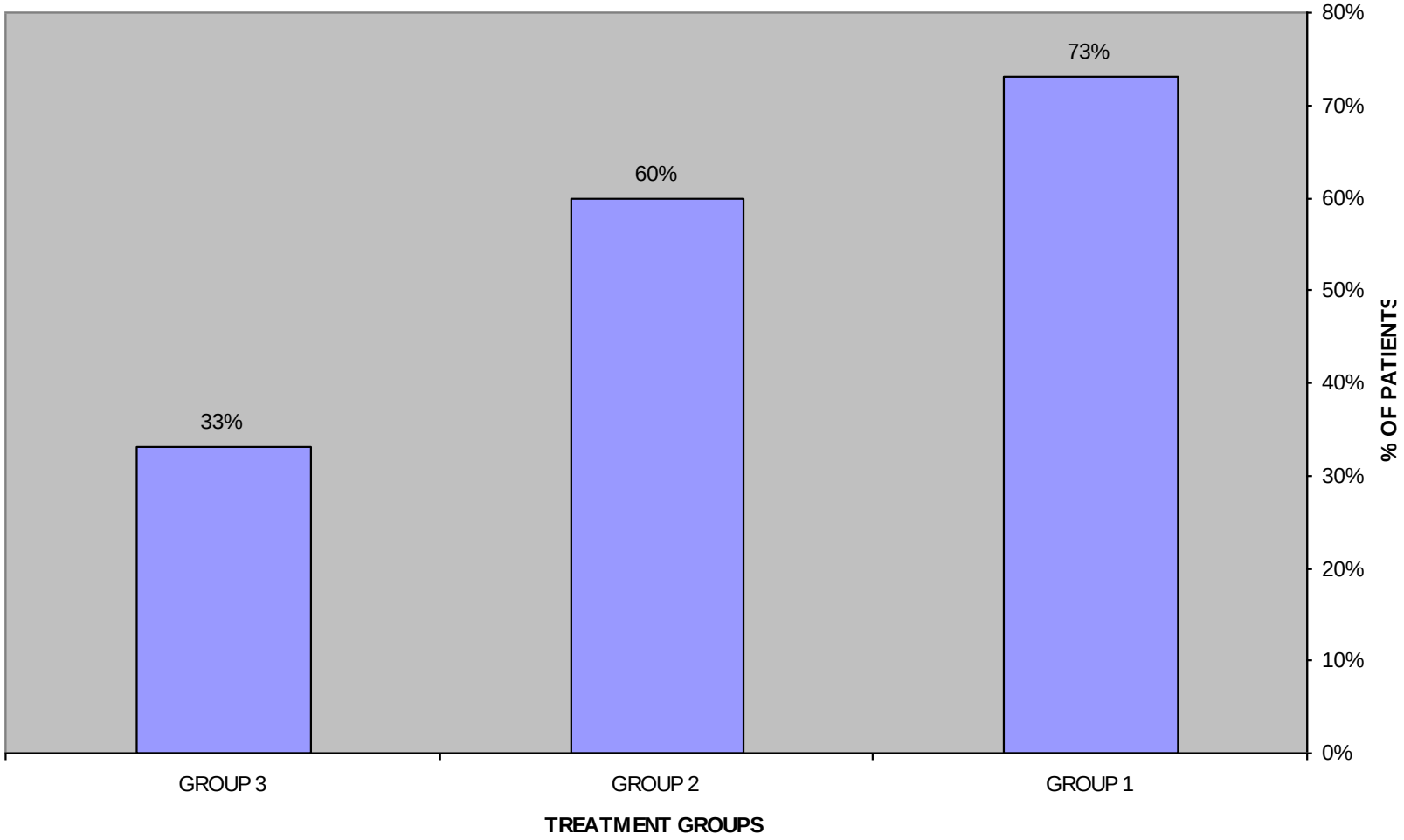
COMPARISON OF 3 GROUPS WITH SUBSEQUENT INTERVENTIONS

VARIABLE	GROUP 1 N=11	GROUP 2 N=10	GROUP 3 N=12	1 Vs 2 (P)	1 Vs 3 (P)	2 Vs 3 (P)
VISUAL LOSS	-1 (-5.7)	-1 (-10.0)	-1 (-3.5)	0.60	0.26	0.10
IOP FELL > 30%	11 (79%)	9 (69%)	4 (33%)	0.68	0.04	0.11
ACHIEVED IOP TARGET	13 (93%)	10 (77%)	7 (58%)	0.33	0.07	0.41
IOP > 20 mmhg ON MEDICATIONS	1 (7%)	1 (8%)	0 (0%)	1.0	1.0	1.0
REPEAT SURGERY	3 (21%)	3 (23%)	0 (0%)	1.0	0.22	0.22

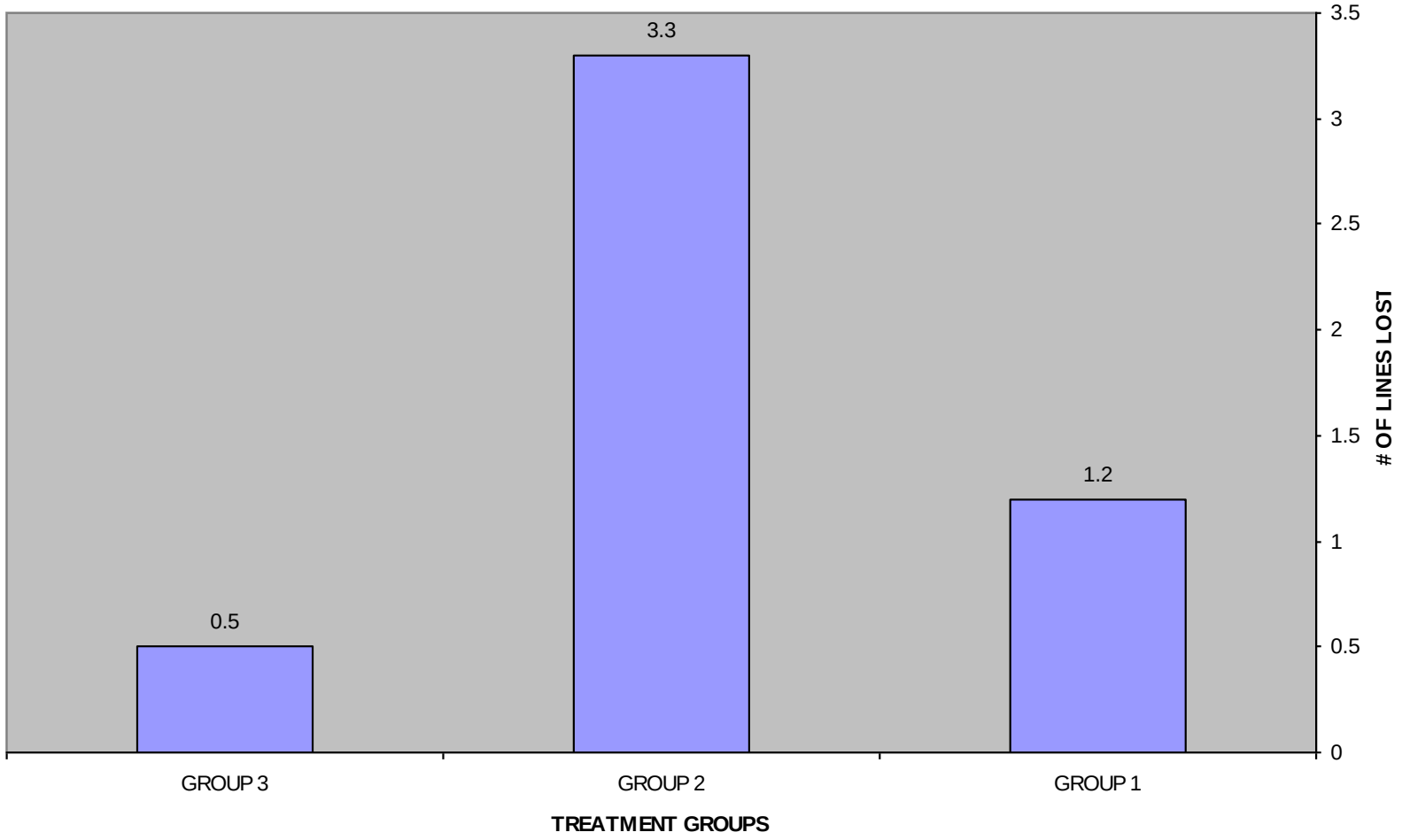
PATIENT ACHIEVED TARGET IOP

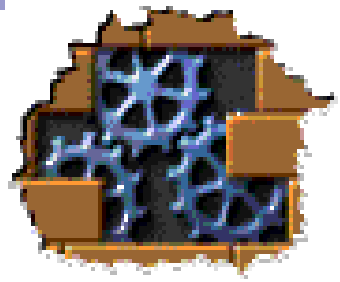


FALL OF IOP > 30%



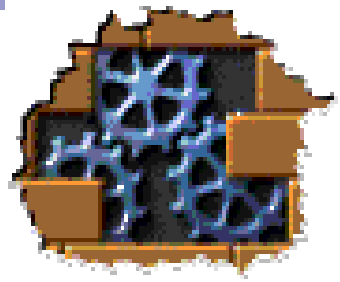
LOSS OF SNELLEN LINES





Discussion

- Of 33 eyes included in the final analysis , 15 (45%) lost 2 or more lines of VA empasizing the significance of FAC complications .
- Groups 1 & 2 had greater number of eyes with VA decline of 2 or more lines (54% & 60% respectively) relative to group 3 (25%) ***(P = 0.04 between group 2 & 3) .***
- Eyes treated medically are less likely to lose vision than those managed by surgical intervention as in groups 1 & 2 .



- Greater rates of IOP success were observed in groups 1 & 2 . There was almost a statistically significant difference between groups 1 & 3 . ***(P = 0.09)***
- Though not statistically significant , the trend of 91% (group 1) , 70% (group 2) & 58% (group 3) suggests that reformation with viscoelastic is more likely to result in a satisfactory postoperative IOP than medical treatment alone .

Conclusion

- In conclusion , Reformation of the AC with drainage of choroidal effusion may be associated with great long term trabeculectomy success , but is associated with greater visual acuity loss relative to medical therapy alone .

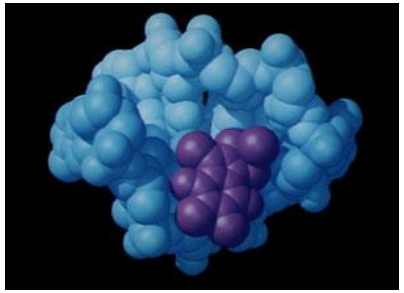
- Reformation with viscoelastic resulted in a trend toward lowest final IOP in comparison to medical therapy alone.

Strong points :

- Prospective randomized study
- Same surgical methods

Weak points :

- Small sample size
- Questionable justification to drain choroidal effusion in grade 2 FAC
- No antimetabolites used




Thank you