RESULTS

The results were done on one hundred and twenty patients divided into three equal groups each group divided into equal two subgroup , group I included 40 patients received sub-tenon local anaesthesia **,***Subgroup A*: formed of 20 patients undergo sub-tenon block .*Subgroup B*: formed of 20 patients under go sub-tenon block with 15 IU\ml hyaluronidase and group II included 40 patients received peri-bulbar local anaesthesia patients divided into 2 subgroups (A, B). *Subgroup A*: formed of 20 patients under go conventional Peribulbar block *Subgroup B*: formed of 20 patients under go conventional Peribulbar block with 15 IU\ml hyaluronidase. Group III: Patients of this group is formed of 40 patients divided into 2 subgroups (A, B) *Subgroup A*: formed of 20 patients undergo percutaneous single injection medial canthus. *Subgroup B*: formed of 20 patient's percutaneous single injection medial canthus with 15 IU\ml hyaluronidase.

Evaluation criteria in all groups included, pain (during injection, during surgery and immediate postoperative), intraocular pressure (before injection, immediate after injection, 5min after injection), degree of globe akinesia after (2, 5, 10, 15) min of injection, lid akinesia conjunctival haemorrhage, Chemosis, and need for facial nerve block.

Results

Demographic Data

There were no significant statistical differences between the three groups as regards age ($P > 0.05$).

Table (7): Comparison between different groups according to age:

Group	N	Mean	Std. Deviation	Minimum	Maximum	f	p
sub tenon	20	61.75	12.061	45	84	0.2	>0.05
sub tenon & hyaluronidase	20	60.65	9.767	45	80		
Peribulbar	20	59.40	11.385	35	80		
peribulbar & hyaluronidase	20	61.90	9.358	45	85		
Single injection	20	60.95	13.446	30	80		
Single injection & hyaluronidase	20	62.55	9.445	43	78		
Total	120	61.20	10.830	30	85		

There were no significant statistical differences between the three groups as regards sex (P > 0.05).

Table (8): Comparison between different groups according to sex:

		sub tenon		sub tenon & hyaluronidase		peribulbar		peribulbar &hyaluronidase		Single injection		Single injection & hyaluronidase		Total		X^2	P
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
sex	Female	8	40.0%	11	55.0%	9	45.0%	12	60.0%	13	65.0%	12	60.0%	65	54.2%	3.7	>0.05
	Male	12	60.0%	9	45.0%	11	55.0%	8	40.0%	7	35.0%	8	40.0%	55	45.8%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

There were no significant statistical differences between the three groups as regards ASA class (P > 0.05).

Table (9): Comparison between different groups according to ASA:

		sub tenon		sub tenon & hyaluronidase		peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total		X^2	P
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
ASA	1	8	40.0%	11	55.0%	8	40.0%	8	40.0%	8	40.0%	7	35.0%	50	41.7%	2.2	>0.05
	2	9	45.0%	7	35.0%	9	45.0%	9	45.0%	9	45.0%	9	45.0%	52	43.3%		
	3	3	15.0%	2	10.0%	3	15.0%	3	15.0%	3	15.0%	4	20.0%	18	15.0%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

There were no significant statistical differences between the three groups as regards duration of surgery (P > 0.05).

Table (10): comparison between different groups according to duration of surgery:

		N	Mean	Std. Deviation	Minimum	Maximum	f	P
duration of surgery	sub tenon	20	31.50	5.643	20	40	0.5	>0.05
	sub tenon & hyaluronidase	20	31.25	6.257	20	45		
	Peribulbar	20	31.50	5.871	20	40		
	peribulbar & hyaluronidase	20	33.25	8.777	20	60		
	Single injection	20	30.50	6.048	20	40		
	Single injection & hyaluronidase	20	30.75	5.200	20	40		
	Total	120	31.46	6.331	20	60		

Pain

(a) On injection

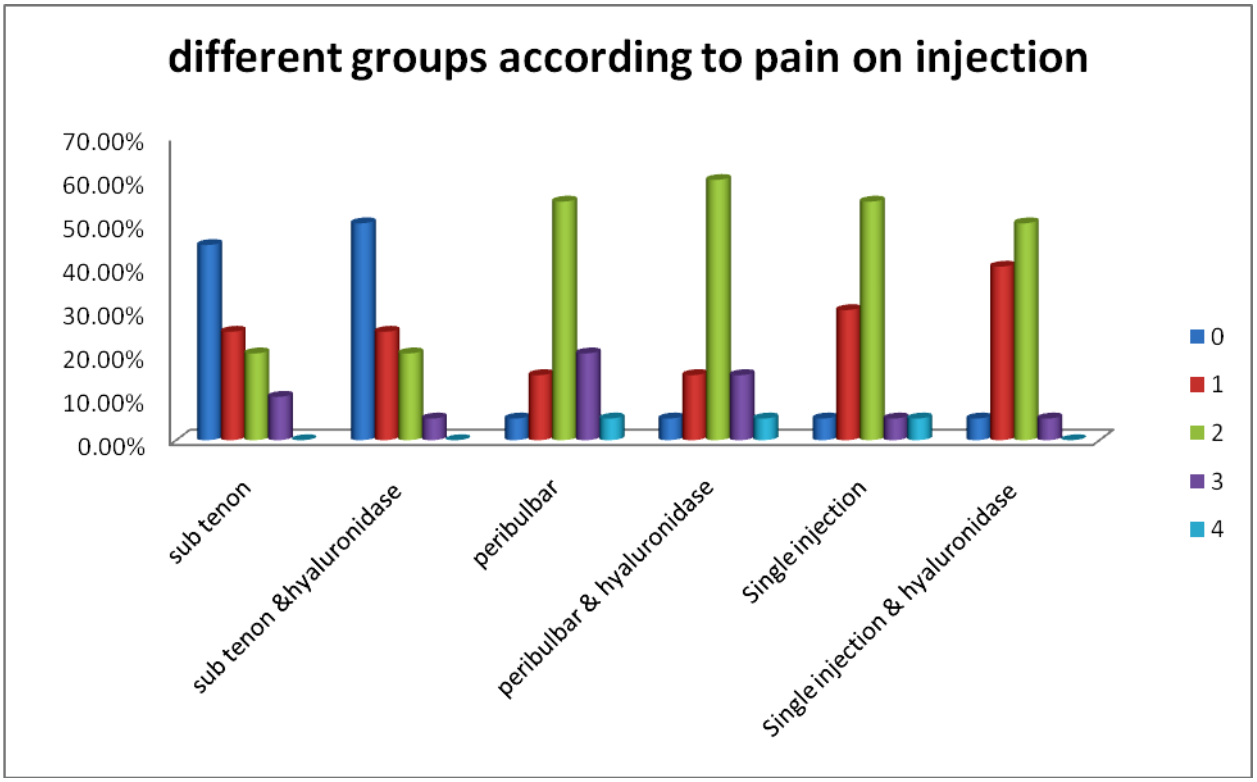
- On injection, there was high significant statistical difference between the 3 groups as regards V.P.S. (P< 0.002).

- in group I subgroup A sub-tenon block 9 patients (45%) had no pain, 5 patients (25%) experienced slight discomfort, 4 patients (20%) experienced slight pain, 2 patients (10%) experienced moderate pain, no patient experienced intense pain, in subgroup B-tenon block with 15 IU\ml hyaluronidase 10 patients (50%) had no pain, 5 patients (25%) experienced slight discomfort, 4 patients (20%) experienced slight pain, 1 patients (5%) experienced moderate pain, no patient experienced intense pain.
- In group II, *Subgroup A* conventional Peribulbar block 1 patients (5%) had no pain, 3 patients (15%) experienced slight discomfort, 11 patients (55%) experienced slight pain, 4 patients (20%) experienced moderate pain while 1 patients (5%) experienced intense pain. *Subgroup B* conventional Peribulbar block with 15 IU\ml hyaluronidase 1 patients (5%) had no pain , 3 patients (15%) experienced slight discomfort, 12 patients (60%) experienced slight pain, 3 patients (15%) experienced moderate pain while 1 patients (5%) experienced intense pain.
- In group III, *Subgroup A* single injection medial canthus *percutaneous* Peribulbar block 1 patients (5%) had no pain , 6 patients (30%) experienced slight discomfort, 11 patients (55%) experienced slight pain, 1 patients (5%) experienced moderate pain while 1 patients (5%) experienced intense pain. *Subgroup B* single injection medial canthus *percutaneous* Peribulbar block with 15 IU\ml hyaluronidase 1 patients (5%) had no pain , 8 patients (40%) experienced slight discomfort, 10 patients (50%) experienced slight pain, 1 patients (5%) experienced moderate pain while no patient experienced intense pain

Table (11): comparison between different groups according to pain on injection

		sub tenon		sub tenon &hyaluronidase		peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total		X^2	P
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
p on injection	0	9	45.0%	10	50.0%	1	5.0%	1	5.0%	1	5.0%	1	5.0%	23	19.2%	43.6	<0.05
	1	5	25.0%	5	25.0%	3	15.0%	3	15.0%	6	30.0%	8	40.0%	30	25.0%		
	2	4	20.0%	4	20.0%	11	55.0%	12	60.0%	11	55.0%	10	50.0%	52	43.3%		
	3	2	10.0%	1	5.0%	4	20.0%	3	15.0%	1	5.0%	1	5.0%	12	10.0%		
	4	0	.0%	0	.0%	1	5.0%	1	5.0%	1	5.0%	0	.0%	3	2.5%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

Fig (21) different groups according to pain on injection



b) During surgery

Pain experienced during surgery was assessed 10 minutes from starting surgery, there was no significant statistical difference between the 3 groups as regards (V.P.S.) P >0.05.

In group I subgroup A sub-tenon block 17 patients (85%) had no pain, 1 patients (5%) experienced slight discomfort, 1 patients (5%) experienced slight pain, 1 patients (5%) experienced moderate pain, no patient experienced intense pain, in subgroup B-tenon block with 15 IU\ml hyaluronidase 18 patients (90%) had no pain, 1 patients (5%) experienced slight discomfort, 1 patients (5%) experienced slight pain, no patients experienced moderate pain or intense pain.

In group II, *Subgroup A* conventional Peribulbar block 13 patients (65%) had no pain, 3 patients (15%) experienced slight discomfort, 2 patients (10%) experienced slight pain, 2 patients (10%) experienced moderate pain while no patients experienced intense pain. *Subgroup B* conventional Peribulbar block with 15 IU\ml hyaluronidase 17 patients (85%) had no pain , 1 patients (5%) experienced slight discomfort, 1 patients (5%) experienced slight pain, 1 patients (5%) experienced moderate pain while no patients experienced intense pain.

In group III, *Subgroup A* single injection medial canthus *percutaneous* Peribulbar block 10 patients (50%) had no pain , 3 patients (15%) experienced slight discomfort, 4 patients (20%) experienced slight pain, 2 patients (10%) experienced moderate pain while 1 patients (5%) experienced intense pain. *Subgroup B* single injection medial canthus *percutaneous* Peribulbar block with 15 IU\ml hyaluronidase 16 patients (80%) had no pain , 2 patients (10%) experienced slight discomfort, 1 patients (5%) experienced slight pain, 1 patients (5%) experienced moderate pain while no patient experienced intense pain.

Table (12): Comparison between different groups according to pain on surgery:

		sub tenon		sub tenon & hyaluronidase		peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total		X^2	P
		Count	% within group	Count	% within group	Count	% within group	Count	% within group	Count	% within group	Count	% within group	Count	% within group		
p on surgery	0	17	85.0%	18	90.0%	13	65.0%	17	85.0%	10	50.0%	16	80.0%	91	75.8%	17.6	>0.05
	1	1	5.0%	1	5.0%	3	15.0%	1	5.0%	3	15.0%	2	10.0%	11	9.2%		
	2	1	5.0%	1	5.0%	2	10.0%	1	5.0%	4	20.0%	1	5.0%	10	8.3%		
	3	1	5.0%	0	.0%	2	10.0%	1	5.0%	2	10.0%	1	5.0%	7	5.8%		
	4	0	.0%	0	.0%	0	.0%	0	.0%	1	5.0%	0	.0%	1	.8%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

c) Post operative

Immediately postoperative there was significant statistical difference between the three groups as regards the (V.P.S.) P <0.05.

In group I subgroup A sub-tenon block 3 patients (15%) had no pain, 9 patients (45%) experienced slight discomfort, 4 patients (20%) experienced slight pain, 4 patients (20%) experienced moderate pain, no patient experienced intense pain, in subgroup B-tenon block with 15 IU\ml hyaluronidase 2 patients (10%) had no pain,11 patients (55%) experienced slight discomfort, 4 patients (20%) experienced slight pain, 3 patients(15%) experienced moderate pain no patient experienced intense pain.

In group II, *Subgroup A* conventional Peribulbar block 1 patients (5%) had no pain, 14 patients (70%) experienced slight discomfort, 2 patients (10%) experienced slight pain, 2 patients (10%) experienced moderate pain while 1 patients (5%) experienced intense pain. *Subgroup B* conventional Peribulbar block with 15 IU\ml hyaluronidase 1 patients (5%) had no pain , 12 patients (60%) experienced slight discomfort, 4 patients (20%) experienced slight pain,

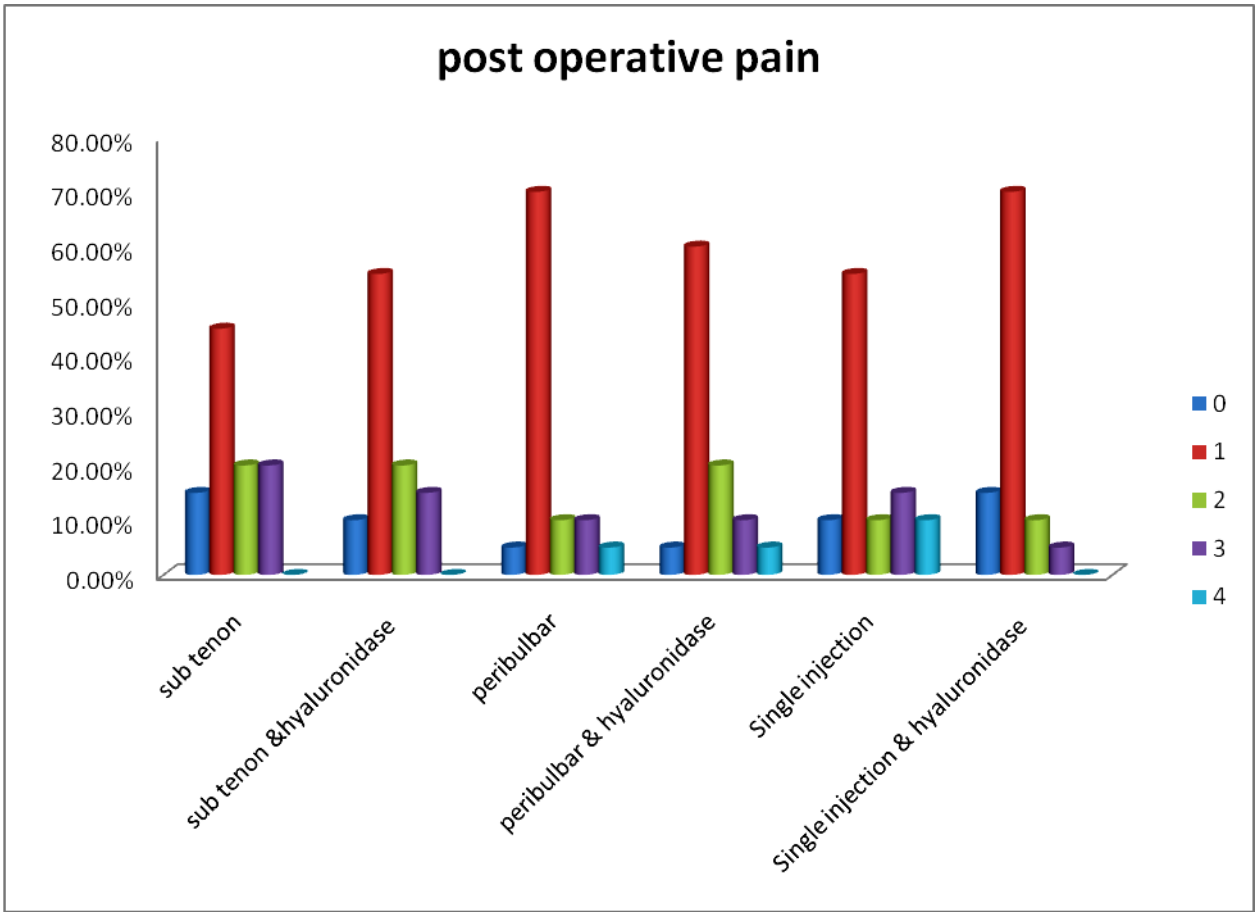
2 patients (10%) experienced moderate pain while 1 patients(5%) experienced intense pain.

In group III, *Subgroup A* single injection medial canthus *percutaneous* Peribulbar block 2 patients (10%) had no pain , 11 patients (55%) experienced slight discomfort, 2 patients (10%) experienced slight pain, 3 patients (15%) experienced moderate pain while 2 patients (10%) experienced intense pain. *Subgroup B* single injection medial canthus *percutaneous* Peribulbar block with 15 IU\ml hyaluronidase 3patients (15%) had no pain, 14 patients (70%) experienced slight discomfort, 2 patients (10%) experienced slight pain, 1 patients (5%) experienced moderate pain while no patient experienced intense pain.

Table (13): Comparison between different groups according to post operative pain

																X^2	p
		sub tenon		sub tenon & hyaluronidase		peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
p post op	0	3	15.0%	2	10.0%	1	5.0%	1	5.0%	2	10.0%	3	15.0%	12	10.0%	43.6	<0.05
	1	9	45.0%	11	55.0%	14	70.0%	12	60.0%	11	55.0%	14	70.0%	71	59.2%		
	2	4	20.0%	4	20.0%	2	10.0%	4	20.0%	2	10.0%	2	10.0%	18	15%		
	3	4	20.0%	3	15.0%	2	10.0%	2	10.0%	3	15.0%	1	5.0%	15	12.5%		
	4	0	.0%	0	.0%	1	5.0%	1	5.0%	2	10.0%	0	.0%	4	3.3%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

Fig (22): Comparison between different groups according to post operative pain



Globe Akinesia

The onset of globe akinesia was much faster in group I than in group II and III. There was high significant statistical difference between the 3 groups (P < 0.001) at 2, 5 minutes and at 10, 15 minutes there was no a significant statistical difference between the 3 groups where P > 0.005.

At 2 minutes, in group I subgroup A sub-tenon block 14 patients (70%) had globe akinesia (globe movement score (GMS) < 4) , group I subgroup B sub-tenon block with 15 IU\ml hyaluronidase 18 patients (90%) had globe akinesia , In group II, *Subgroup A* conventional Peribulbar block 6 patients (30%) had globe akinesia , *Subgroup B* conventional Peribulbar block with 15

IU\ml hyaluronidase 12 patients (60%) had globe akinesia In group III, *Subgroup A* single injection medial canthus *percutaneous* Peribulbar block 6 patients (30%) had globe akinesia . *Subgroup B* single injection medial canthus *percutaneous* Peribulbar block with 15 IU\ml hyaluronidase 10patients (50%) had globe akinesia.

At 5min , in group I subgroup A sub-tenon block 19 patients (95%) had globe akinesia (globe movement score (GMS) < 4) , group I subgroup B sub-tenon block with 15 IU\ml hyaluronidase 20 patients (100%) had globe akinesia , In group II, *Subgroup A* conventional Peribulbar block 12 patients (60%) had globe akinesia , *Subgroup B* conventional Peribulbar block with 15 IU\ml hyaluronidase 18 patients (90%) had globe akinesia In group III, *Subgroup A* single injection medial canthus *percutaneous* Peribulbar block 10 patients (50%) had globe akinesia . *Subgroup B* single injection medial canthus *percutaneous* Peribulbar block with 15 IU\ml hyaluronidase 18 patients (90%) had globe akinesia.

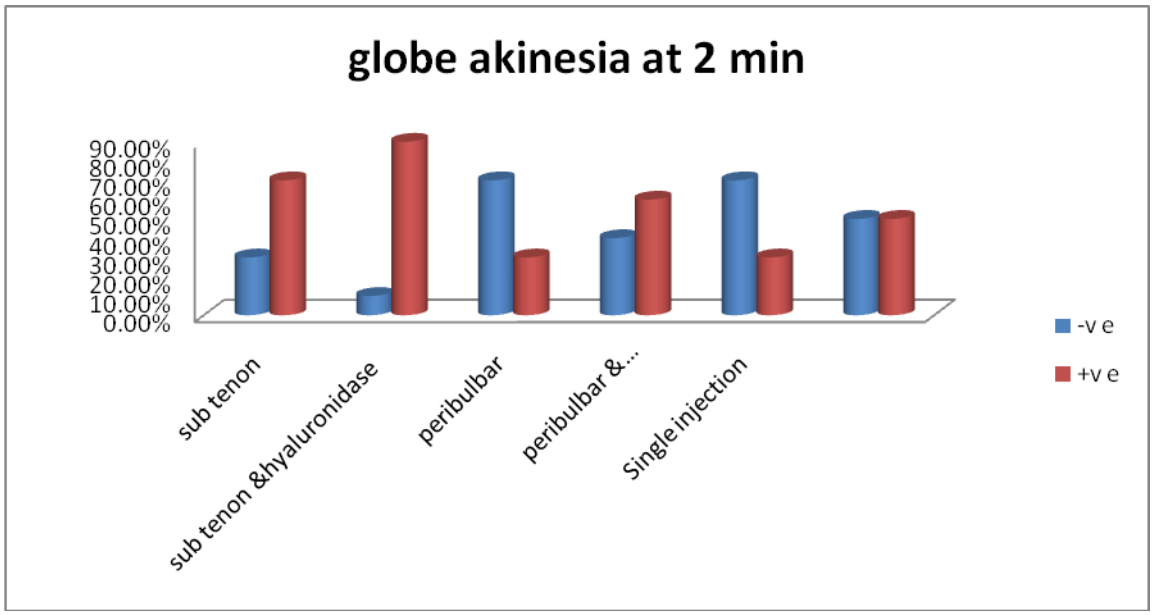
At 10 min , in group I subgroup A sub-tenon block 20 patients (100%) had globe akinesia (globe movement score (GMS) < 4) , group I subgroup B sub-tenon block with 15 IU\ml hyaluronidase 20 patients (100%) had globe akinesia , In group II, *Subgroup A* conventional Peribulbar block 17 patients (85%) had globe akinesia , *Subgroup B* conventional Peribulbar block with 15 IU\ml hyaluronidase 19 patients (95%) had globe akinesia In group III, *Subgroup A* single injection medial canthus *percutaneous* Peribulbar block 16 patients (80%) had globe akinesia . *Subgroup B* single injection medial canthus *percutaneous* Peribulbar block with 15 IU\ml hyaluronidase 18 patients (90%) had globe akinesia.

At 15 min all had globe movement score (GMS) < 4).

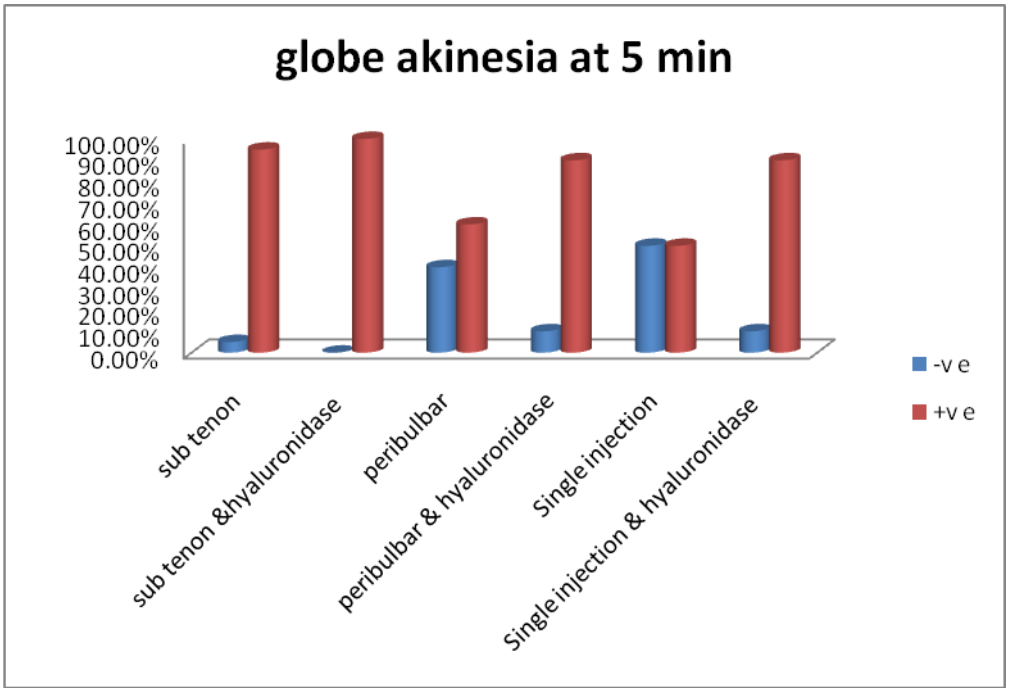
Table (14): Comparison between different groups according to globe akinesia (globe movement score (GMS) < 4)

		sub tenon		sub tenon & hyaluronidase		Peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total		X^2	P
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
globe akin2 min	-v e	6	30.0%	2	10.0%	14	70.0%	8	40.0%	14	70.0%	10	50.0%	54	45.0%	22.2	<0.001
	+v e	14	70.0%	18	90.0%	6	30.0%	12	60.0%	6	30.0%	10	50.0%	66	55.0%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		
globe akin5 min	-v e	1	5.0%	0	.0%	8	40.0%	2	10.0%	10	50.0%	2	10.0%	23	19.2%	27.4	<0.001
	+v e	19	95.0%	20	100.0%	12	60.0%	18	90.0%	10	50.0%	18	90.0%	97	80.8%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		
globe akin10 min	-v e	0	.0%	0	.0%	3	15.0%	1	5.0%	4	20.0%	2	10.0%	10	8.3%	8.7	>0.05
	+v e	20	100.0%	20	100.0%	17	85.0%	19	95.0%	16	80.0%	18	90.0%	110	91.7%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		
globe akin15 min	-v e	0	00.0%	0	00.0%	0	00.0%	0	00.0%	0	00.0%	0	00.0%	0	00.0%	----	----
	+v e	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

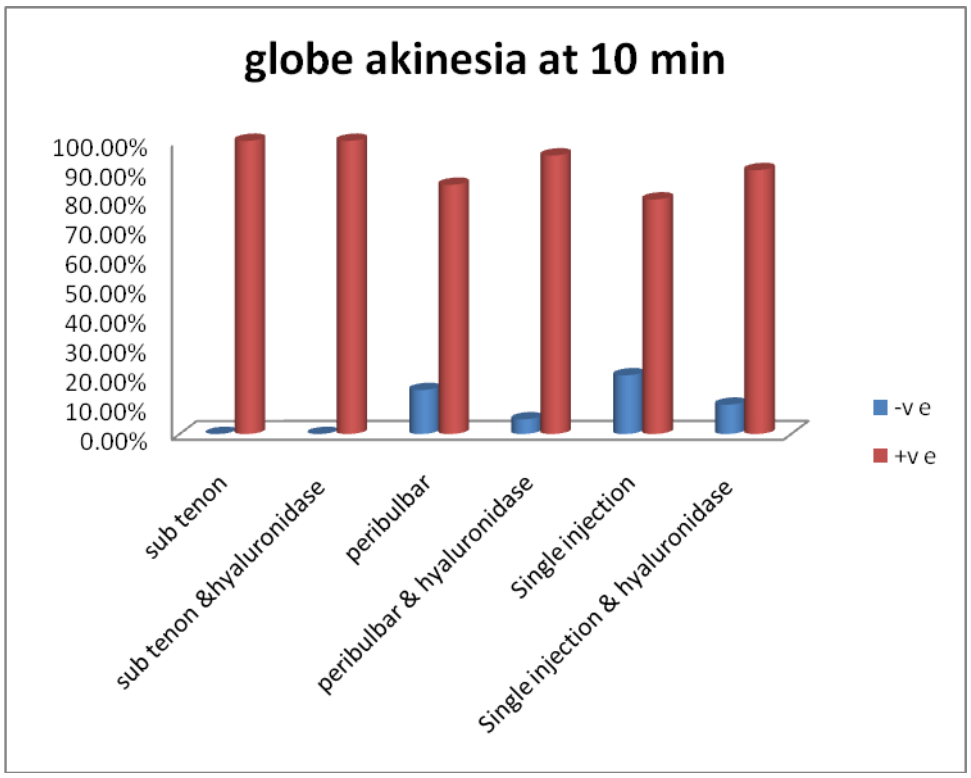
Fig(23):globe akinesia at 2 min



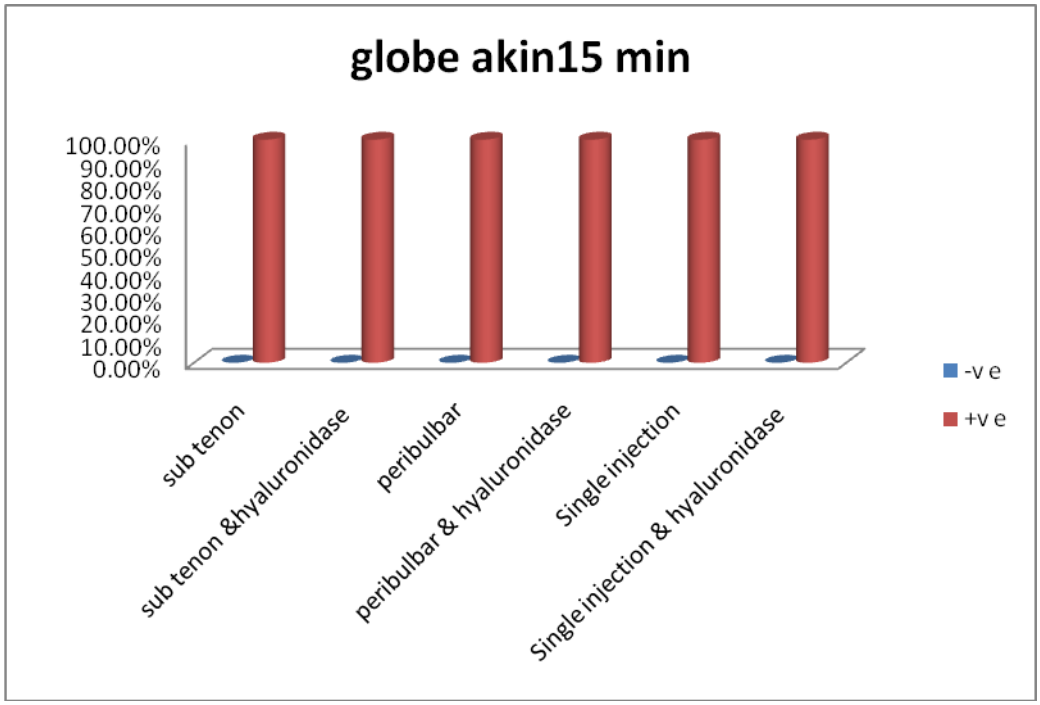
Fig(24):globe akinesia at 5 min



Fig(25):globe akinesia at 10 min



Fig(26):globe akinesia at15 min



b) Number of supplementary injections required

After 10 minutes of the block, if the globe movement score >4, a supplementary injection was given. There was no significant statistical difference between the 3 groups but there was different where 2 patients (10%) in group I subgroup A compared to 1 patients (5%) in group I subgroup B received ,3 patients (15%) in group II subgroup A a supplementary injection ,no patients in group II subgroup B 4 patients (20%) in group III subgroup A 2 patients (10%) in group III subgroup B.

Table (15): comparison between different groups according to number of injections:

		Group														X^2	P
		sub tenon		sub tenon & hyaluronidase		peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
no of inj	1	18	90.0%	19	95.0%	17	85.0%	20	100.0%	16	80.0%	18	90.0%	108	90.0%	5.6	>0.05
	2	2	10.0%	1	5.0%	3	15.0%	0	.0%	4	20.0%	2	10.0%	12	10.0%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

Eye lid akinesia:

Eye lid movement was assessed 10 minutes after injection of local anaesthetic either the sub-tenon or peribulbar local anaesthesia or single injection medial canthus *percutaneous* Peribulbar block there was no significant statistical difference between the 3 groups (P > 0.05) where the patient had score 0 was 11 patient (55%) in group I subgroup A, 13 patient (65%) in group I subgroup B, 10 patient (50%) in group II subgroup A, 16 patient (80%) in group II subgroup B, 9 patient (45%) in group III subgroup, 14 patient (70%) in group III subgroup B. the patient had score 1 was 6 patient (30%) in group I subgroup A,5 patient (25%) in group I subgroup B, 6 patient (30%) in group II subgroup A, 2 patient (10%) in group II subgroup B, 5 patient (25%) in group III subgroup, 4 patient (20%) in group III subgroup B. the patient had score 2 was 3 patient (15%) in group I subgroup A, 2 patient (10%) in group I subgroup B, 4 patient (20%) in group II subgroup A, 2 patient (10%) in group II subgroup B, 6 patient (30%) in group III subgroup, 2 patient (10%) in group III subgroup B.

Results

Table (16): comparison between different groups according to lid akinesia:

		Group														X^2	P
		sub tenon		sub tenon & hyaluronidase		peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
lid akin	0	11	55.0%	13	65.0%	10	50.0%	16	80.0%	9	45.0%	14	70.0%	73	60.8%	9.3	>0.05
	1	6	30.0%	5	25.0%	6	30.0%	2	10.0%	5	25.0%	4	20.0%	28	23.3%		
	2	3	15.0%	2	10.0%	4	20.0%	2	10.0%	6	30.0%	2	10.0%	19	15.8%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

Intraocular pressure measurement (IOP)

In group I subgroup A there was no significant statistical difference between preinjection level of IOP, immediate after injection and 5 min after injection as no significant rise in IOP.

In group I subgroup B there was no significant statistical difference between preinjection level of IOP, immediate after injection and 5 min after injection as no significant rise in IOP.

In group II subgroup A there was significant statistical difference between preinjection level of IOP, immediate after injection and 5 min after injection as significant rise in IOP immediate after injection but drop again after 5 min after application of digital pressure but not reach basal level.

In group II subgroup B there was significant statistical difference between preinjection level of IOP, immediate after injection and 5 min after injection as significant rise in IOP immediate after injection but drop again after 5 min after application of digital pressure to basal level.

In group III subgroup A there was significant statistical difference between preinjection level of IOP, immediate after injection and 5 min after

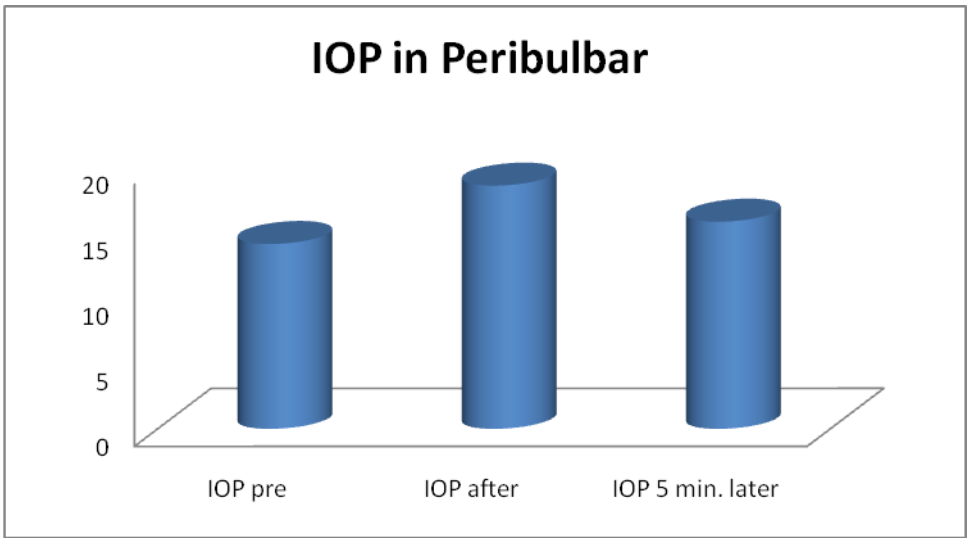
injection as significant rise in IOP immediate after injection but drop again after 5 min after application of digital pressure but not reach basal level.

In group III subgroup B there was significant statistical difference between preinjection level of IOP, immediate after injection and 5 min after injection as significant rise in IOP immediate after injection but drop again after 5 min after application of digital pressure to basal level.

Table (17): comparison between different groups according to IOP

		N	Mean	Std. Deviation	Minimum	Maximum	f	P
sub tenon	IOP pre	20	14.3500	1.92696	12.00	18.00	1.1	>0.05
	IOP after	20	15.3000	2.00263	12.00	19.00		
	IOP 5 min. later	20	14.7500	2.04875	12.00	18.00		
	Total	60	14.8000	1.99830	12.00	19.00		
sub tenon & hyaluronidase	IOP pre	20	14.3000	1.83819	12.00	18.00	0.5	>0.05
	IOP after	20	14.8000	1.79473	12.00	18.00		
	IOP 5 min. later	20	14.3000	1.83819	12.00	18.00		
	Total	60	14.4667	1.80833	12.00	18.00		
Peribulbar	IOP pre	20	14.1000	1.48324	12.00	16.00	50.4	<0.001
	IOP after	20	18.5500	1.43178	16.00	20.00		
	IOP 5 min. later	20	15.8000	1.32188	14.00	18.00		
	Total	60	16.1500	2.31301	12.00	20.00		
peribulbar & hyaluronidase	IOP pre	20	14.9500	2.23548	12.00	20.00	22.9	<0.001
	IOP after	20	18.1000	2.33734	14.00	23.00		
	IOP 5 min. later	20	13.5000	2.01311	10.00	17.00		
	Total	60	15.5167	2.90232	10.00	23.00		
Single injection	IOP pre	20	13.9500	1.46808	12.00	16.00	19.3	<0.001
	IOP after	20	16.8000	1.39925	14.00	19.00		
	IOP 5 min. later	20	15.3000	1.49032	13.00	18.00		
	Total	60	15.3500	1.84873	12.00	19.00		
Single injection & hyaluronidase	IOP pre	20	15.0500	1.60509	13.00	18.00	3.4	<0.05
	IOP after	20	16.0500	2.01246	13.00	20.00		
	IOP 5 min. later	20	14.5500	1.87715	12.00	18.00		
	Total	60	15.2167	1.91419	12.00	20.00		

Fig(27):IOP in peribulbar



Fig(28):IOP in peribulbar with hyaluronidase

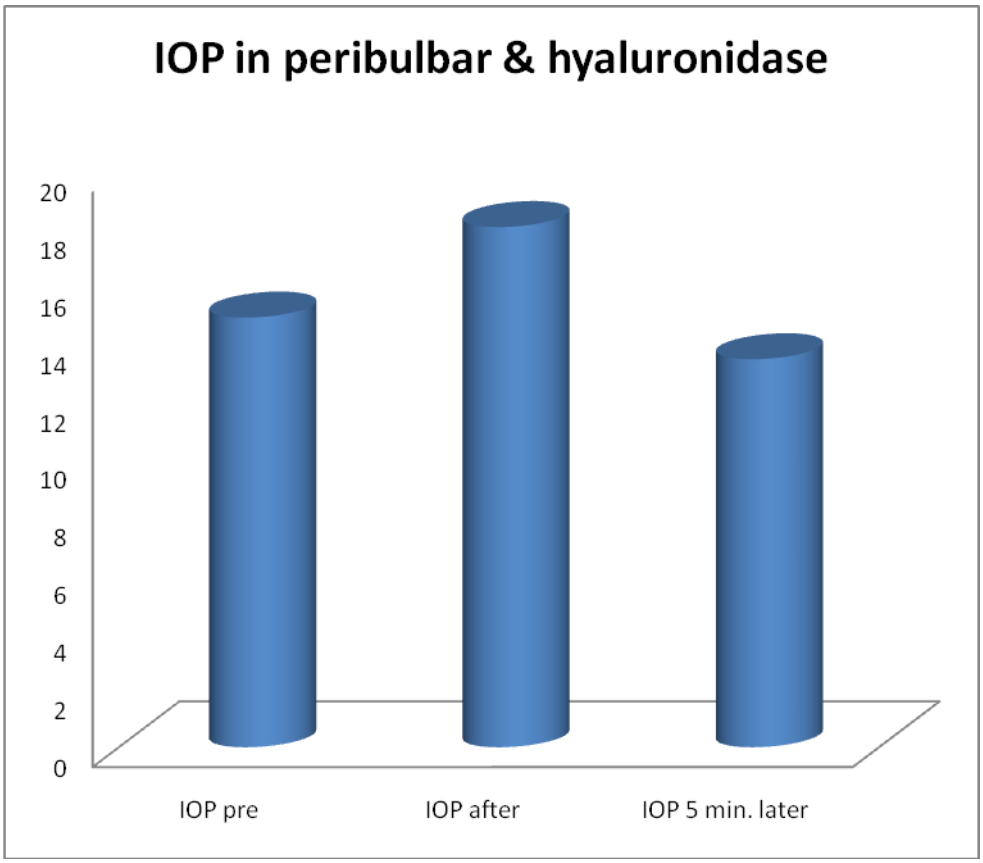


Fig (29): IOP in single injection

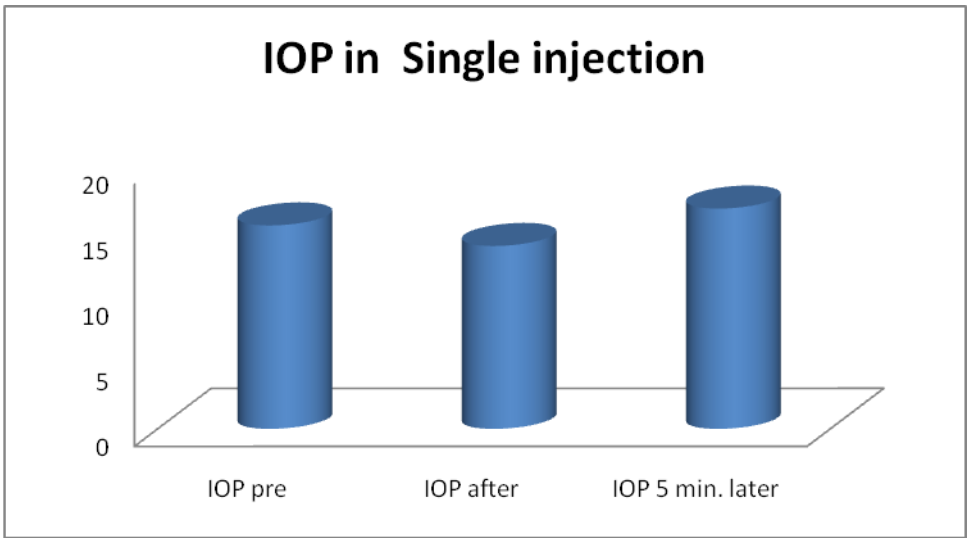
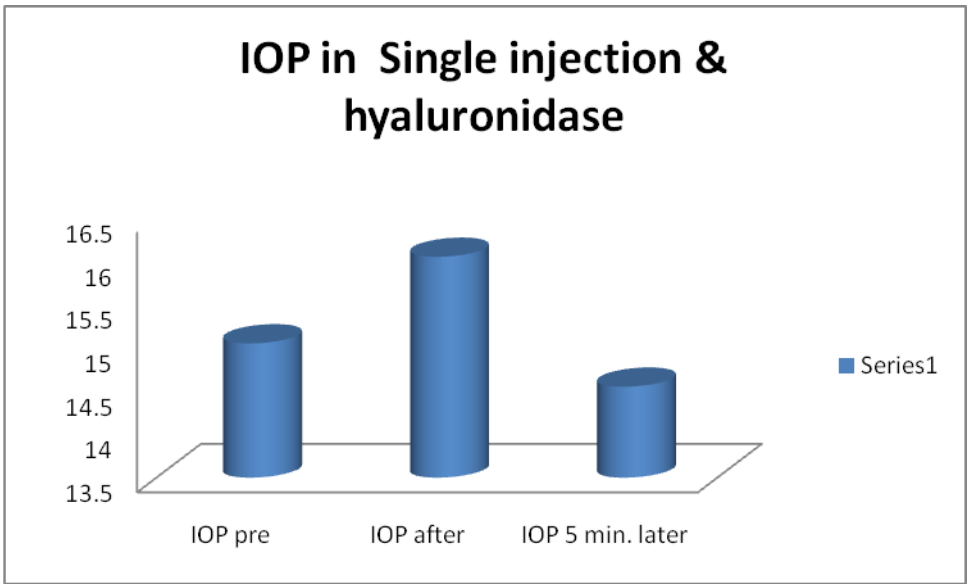


Fig (30):IOP in single injection with hyaluronidase



Conjunctival haemorrhage:

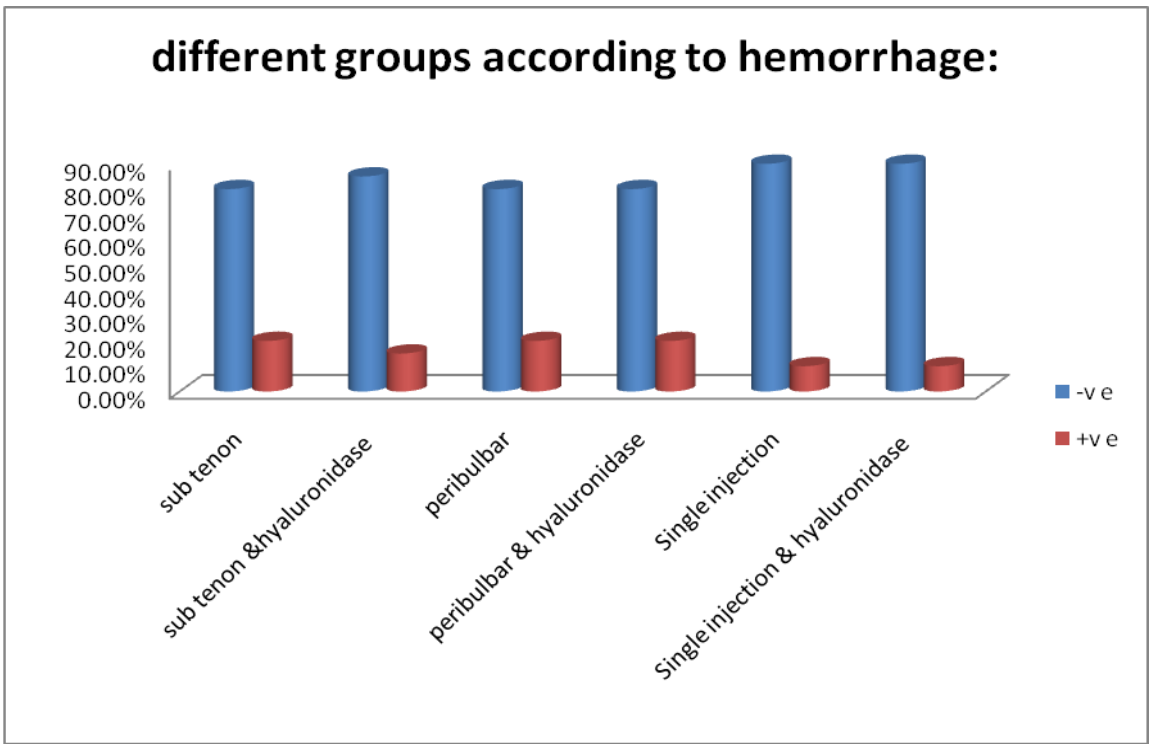
There was no significant statistical difference among the 3 groups as regards conjunctival haemorrhage P > 0.05). In group I subgroup A, 4 patients (20%) had conjunctival haemorrhage, 16 patients (80%) had no conjunctival haemorrhage. In group I subgroup B, 3 patients (15%) had conjunctival haemorrhage , 17 patients (85%) had no conjunctival haemorrhage. In group II

subgroup A, 4 patients (20%) had conjunctival haemorrhage, 16 patients (80%) had no conjunctival haemorrhage. In group II subgroup B, 4 patients (20%) had conjunctival haemorrhage , 16 patients (80%) had no conjunctival haemorrhage . in group III subgroup A, 2 patients (10%) had conjunctival haemorrhage , 18 patients (90%) had no conjunctival haemorrhage . In group III subgroup B, 2 patients (10%) had conjunctival haemorrhage , 18 patients (90%) had no conjunctival haemorrhage.

Table (18): Comparison between different groups according to hemorrhage:

		sub tenon		sub tenon & hyaluronidase		peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total		X^2	P
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
he	-ve	16	80.0%	17	85.0%	16	80.0%	16	80.0%	18	90.0%	18	90.0%	101	84.2%	1.8	>0.05
	+ve	4	20.0%	3	15.0%	4	20.0%	4	20.0%	2	10.0%	2	10.0%	19	15.8%		

Fig (31) different groups according to hemorrhage:



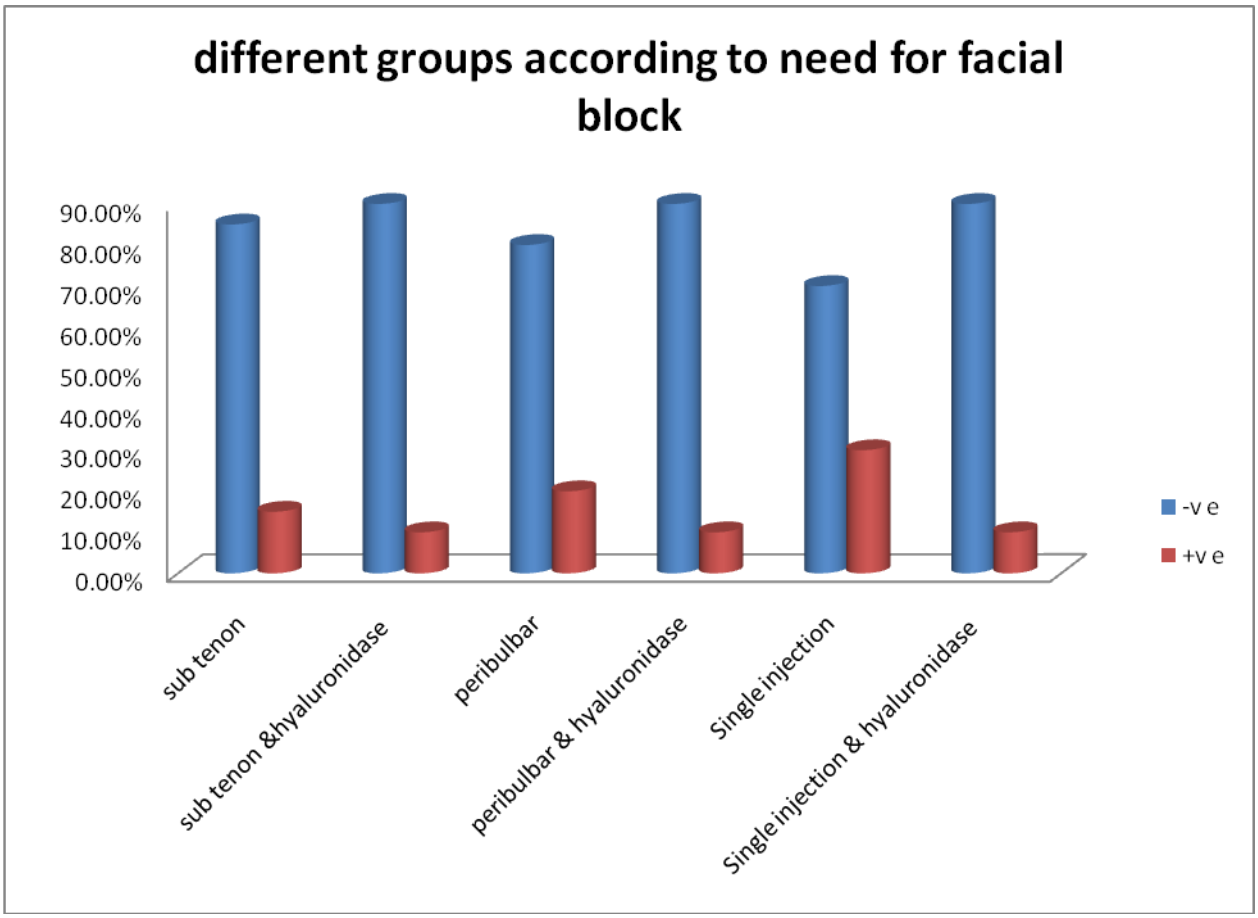
Need for facial nerve block:

Facial nerve block was given when eyelid score > 1 10 minutes after local anaesthesia, in the form of modified Van lint technique. There was no significant statistical difference between the 3 groups P > 0.05. In group I subgroup A 3 patients (15%) was given facial block , In group I subgroup B 2 patients (10%) was given facial block , In group II subgroup A 4 patients (20%) was given facial block , In group II subgroup B 2 patients (10%) was given facial block , In group III subgroup A 6 patients (30%) was given facial block , In group I subgroup A 2 patients (10%) was given facial block .

Table (19): Comparison between different groups according to need for facial block

		sub tenon		sub tenon & hyaluronidase		peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total		X^2	P
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
facil block	-ve	17	85.0%	18	90.0%	16	80.0%	18	90.0%	14	70.0%	18	90.0%	101	84.2%	4.8	>0.05
	+ve	3	15.0%	2	10.0%	4	20.0%	2	10.0%	6	30.0%	2	10.0%	19	15.8%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

Fig (32) different groups according to need of facial nerve block:



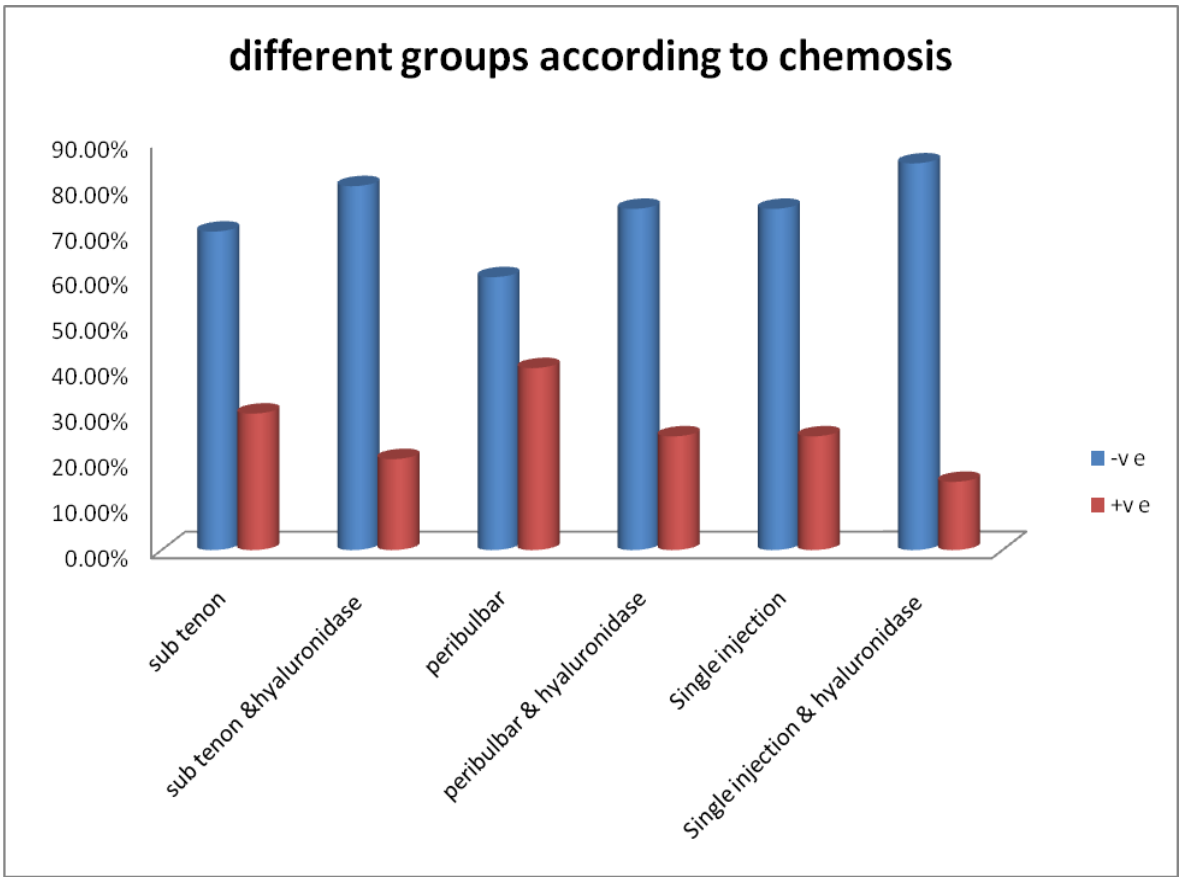
Conjunctival oedema (chemosis)

Chemosis (conjunctival oedema) there was no significant statistical difference between 3 groups as regards conjunctival oedema (P > 0.05). In group I subgroup A, 6 patients (30%) had chemosis, 14 patients (70%) had no chemosis. In group I subgroup B, 4 patients (20%) had chemosis, 16 patients (80%) had no chemosis. In group II subgroup A, 8 patients (40%) had chemosis, 12 patients (60%) had no chemosis. In group II subgroup B, 5 patients (25%) had chemosis, 15 patients (75%) had no chemosis. in group III subgroup A, 5 patients (25%) had chemosis, 15 patients (75%) had no chemosis. In group III subgroup B, 3 patients (15%) had chemosis, 17 patients (85%) had no chemosis.

Table (20): Comparison between different groups according to chemosis:

		Group														X^2	P
		sub tenon		sub tenon & hyaluronidase		peribulbar		peribulbar & hyaluronidase		Single injection		Single injection & hyaluronidase		Total			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
chemosis	-v e	14	70.0%	16	80.0%	12	60.0%	15	75.0%	15	75.0%	17	85.0%	89	74.2%	3.9	>0.05
	+ v e	6	30.0%	4	20.0%	8	40.0%	5	25.0%	5	25.0%	3	15.0%	31	25.8%		
	Total	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	20	100.0%	120	100.0%		

Fig (33) different groups according to chemosis



In the present study Pain scoring showed a highly significant statistical difference between the three groups especially on injection, there was high

significant statistical difference between the 3 groups Immediately postoperative as group I less painful . In the present study globe akinesia was assessed by globe movement score where globe movement score < 4 is satisfactory and the onset of globe akinesia was much faster in group I than in group II and III. Intraocular pressure measurement show no significant rise in IOP in group I there was no significant statistical difference among the 3 groups as regards; Facial nerve block, eyelid akinesia, supplementary injection, conjunctival oedema and conjunctival haemorrhage .so that Sub-Tenon's and single medial canthus with hyaluronidase in terms of akinesia, rate of requirement of supplemental injection, pain scoring is superior than peribulbar anaesthesia and so can be good alternative to peribulbar anaesthesia.