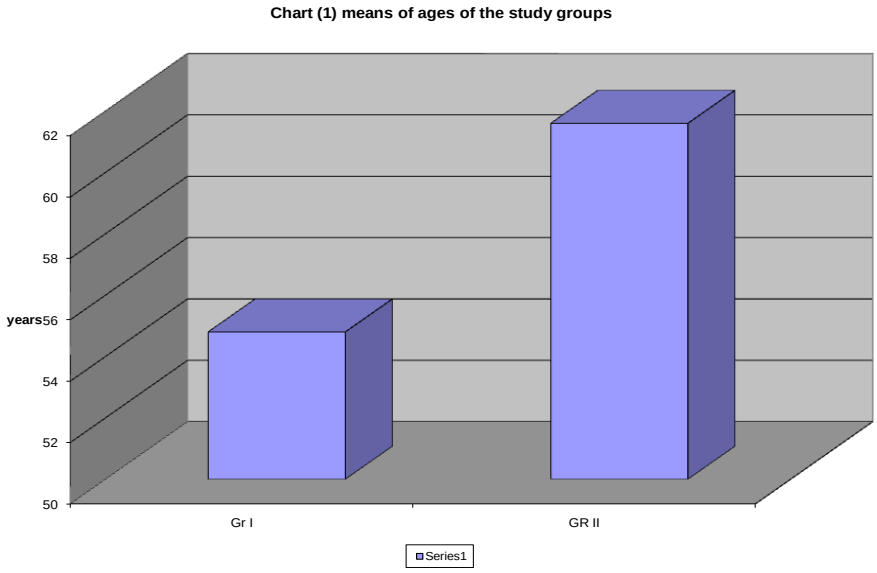
Results

A total of 40 eyes from 40 patients were reviewed. The average age of injected group was 54.8±10.4 years (p>0.05) while average age of control group was 61.6±3.3 years (p<0.01). (table 4-chart 1).

Age / study group	MD ± SD	t	p
Group 1	54.8±10.4	2.79	p>0.05
Group 2	61.6±3.3		

Table (4): Man deviation MD ± Slandered deviation SD of ages among both study groups. Group 1: injected group. Group 2: control group



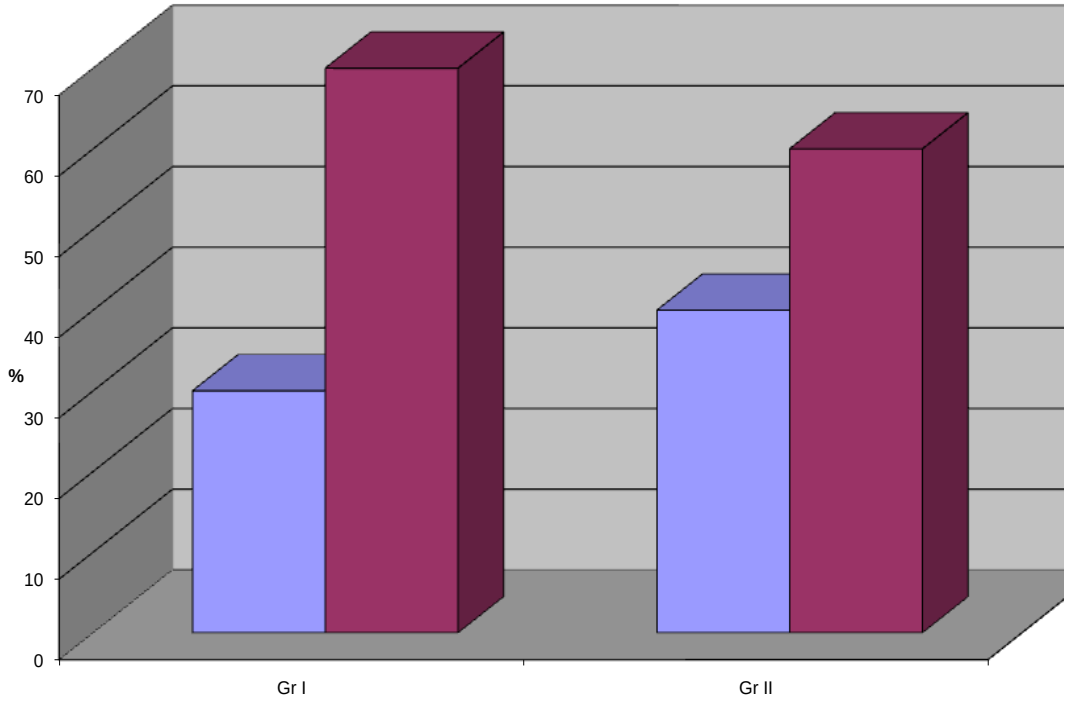
Sex distribution among both study groups was shown in table 5 & chart 2. Injected group contain 20 patients, 6(30%) of them were males while 14(70%) were females. control group contain 20 patients, 8(40%) of them

were males while 12(60%) were females. The whole study contain 40 patients, 14(35%) of them were males while 26(65%) were females.

study group / sex	Group 1		Group 2		Total	
	No.	%	No.	%	No.	%
males	6	30	8	40	14	35
Females	14	70	12	60	26	65
Total	20	100	20	100	40	100

Table (5): Sex distribution among both study groups. Group 1: injected group. Group 2: control group. Chi square (x2) =0.44 p>0.05

Chart (2) sex distribution of the study groups

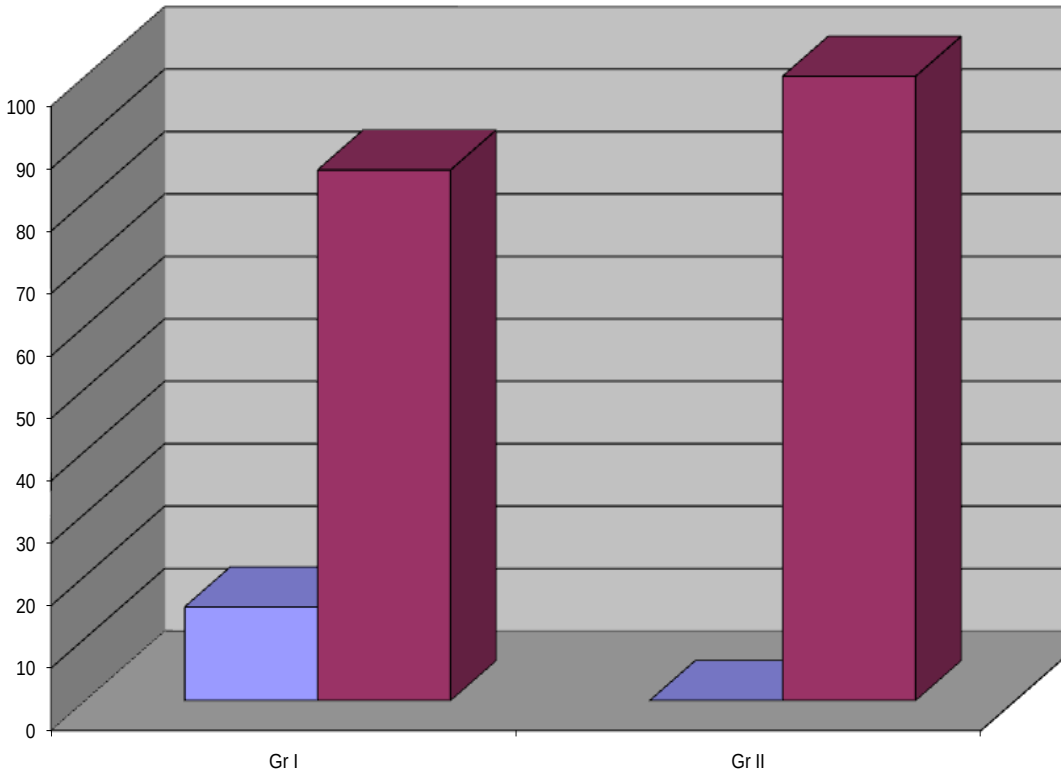


In injected group; three patients had type 1 DM and 37 had type 2 diabetes while all patients of the control group were of type 2 DM. (table 6 & chart 3).

study group / type of DM	Group 1 No.	Group 1 %	Group 2 No.	Group 2 %	Total No.	Total %
Type 1 DM	3	15	0	00.0	3	7.5
Type 2 DM	17	85	20	100	37	92.5
Total	20	100	20	100	40	100

Table (6): Type of DM among study groups. Group 1: injected group. Group 2: control group.

Chart (3) type of diabetes mellitus among the study groups

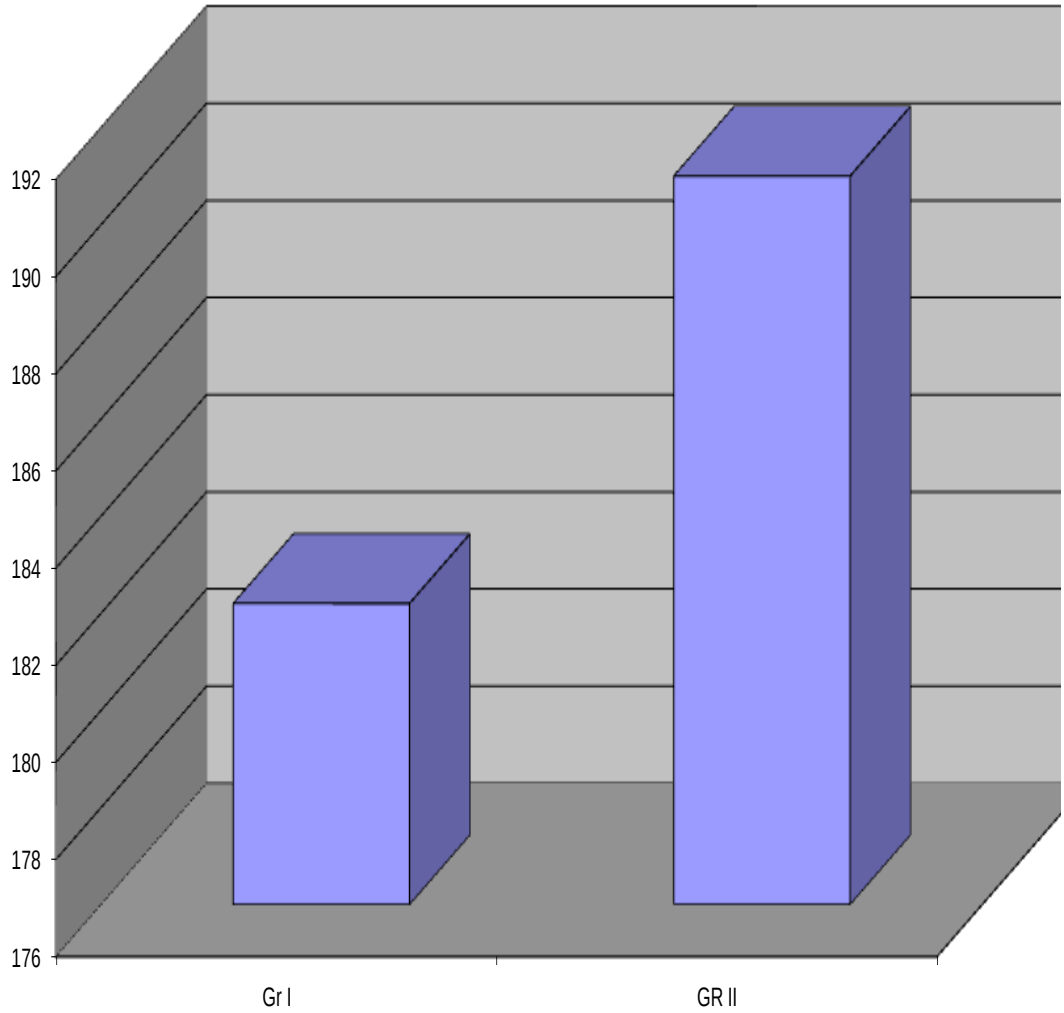


The mean of pre-study fasting blood sugar FBS in both groups of the study is shown in table 7 & chart 4. **(p>0.05).**

FBS / study group	MD ± SD	t	p
Group 1	182.2±62.5	0.6	p>0.05
Group 2	191±20.8		

Table (7): MD ± SD of FBS among both study groups.

Chart (4) means of FBS of the study groups

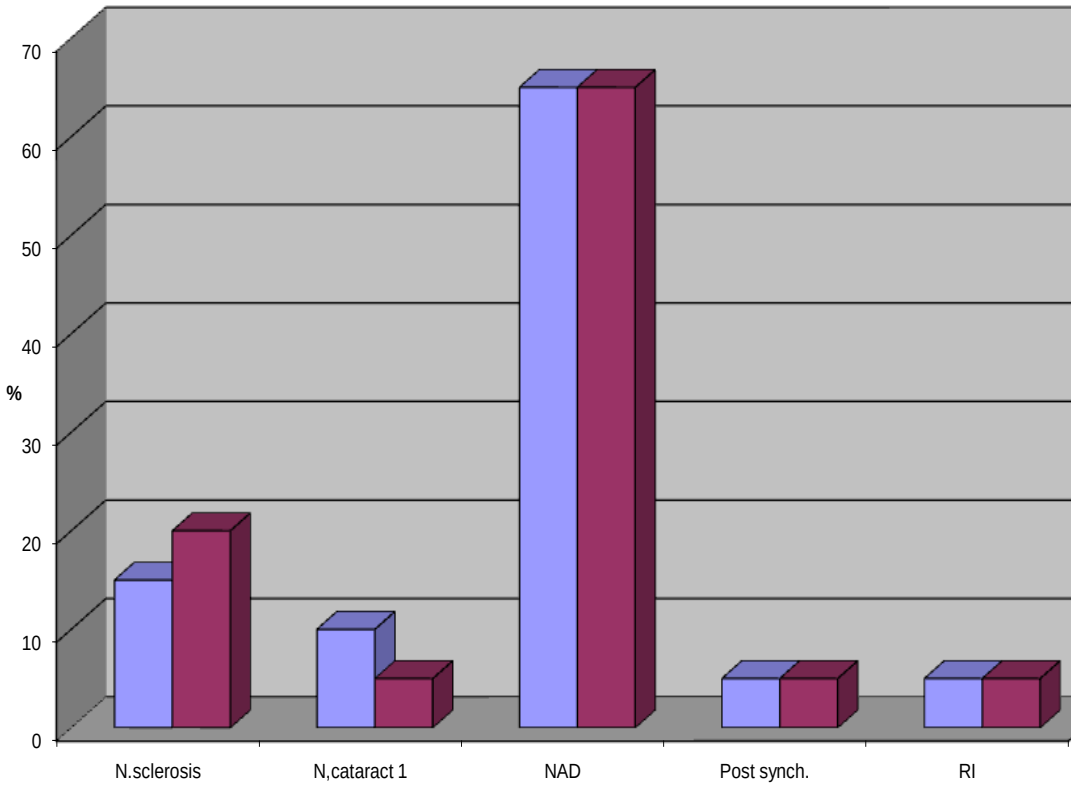


Statistical display of baseline Slitlamp evaluation of both groups is shown in table 8 & chart 5. **(p>0.05).**

study group / pre-Slitlamp	Group 1 No.	%	Group 2 No.	%	z	p
Nuclear sclerosis.	3	15	4	20	0.38	p>0.05
Nuclear cataract Grade 1	2	10	1	5	0.58	p>0.05
NAD	13	65	13	65	___	___
Posterior synechia.	1	5	1	5	___	___
Rubiosis iridis.	1	5	1	5	___	___
Total	20	100	20	100	___	___

Table (8): Pre-Slitlamp among both groups.

Chart 5) pre -SL among the study groups

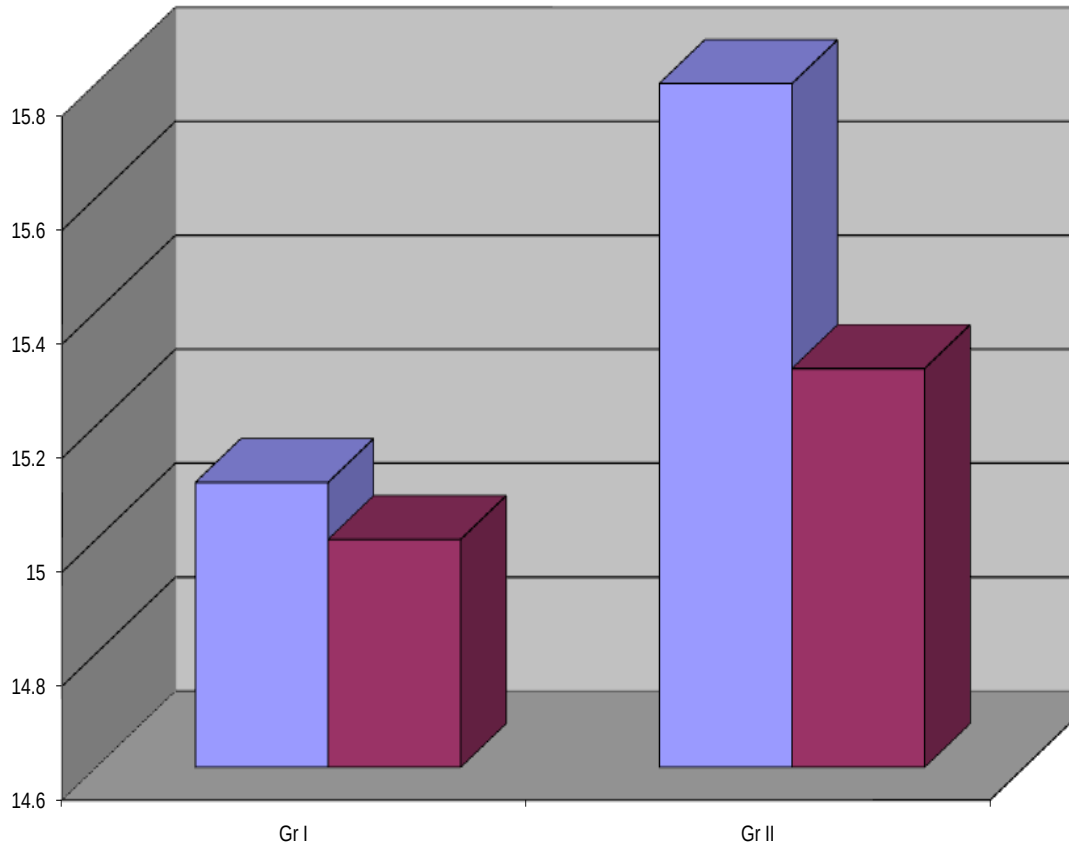


The mean of baseline IOP among both groups of the study is shown in table 9 & chart 6. **(p>0.05).**

study group / pre- IOP	Group 1 N=20 MD ± SD	Group 2 N=20 MD ± SD	t	p
Right eye	15±2.5	15.3±2.5	0.124	p>0.05
Left eye	15.1±2.6	15.8±2.5		

Table (9): MD ± SD of pre- IOP among both study groups.

Chart (6) means of Pre IOP among the study groups

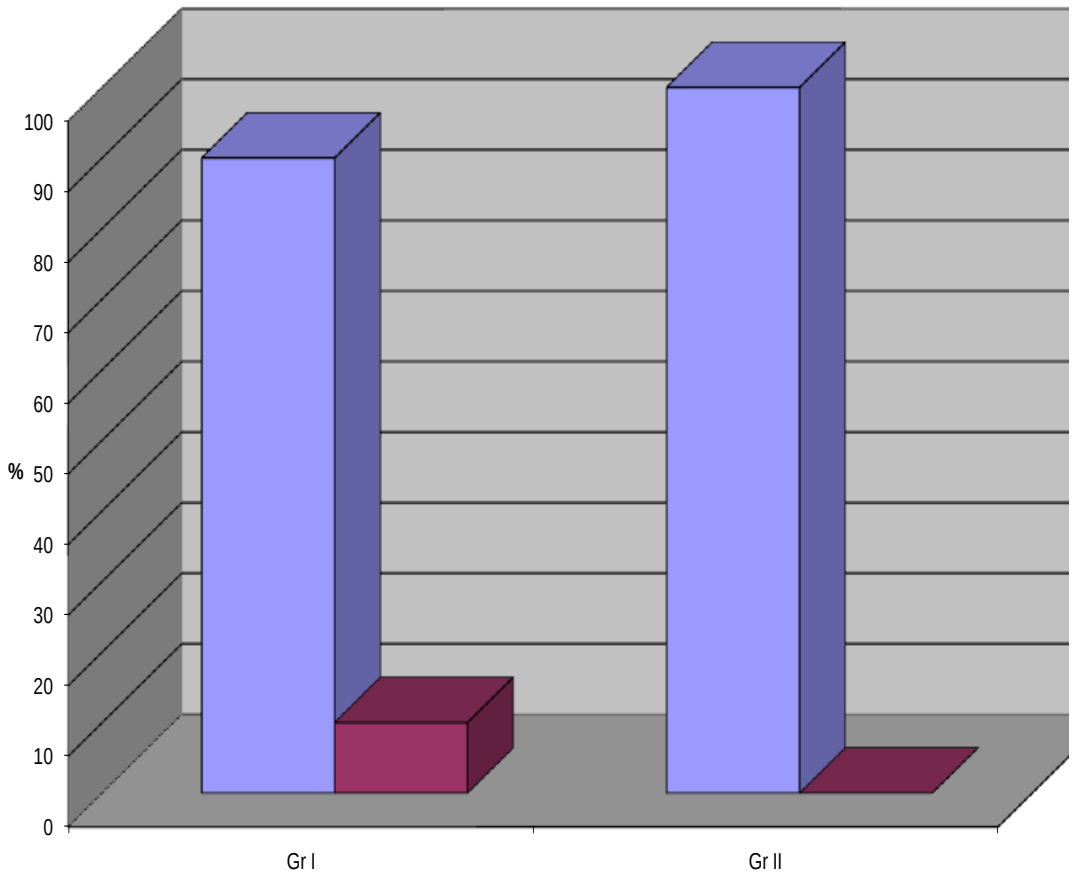


Results of baseline assessment of fundus by indirect ophthalmoscope are shown in table 10 & chart 7. **(p>0.05).**

study group / fundus	Group 1 No.	Group 1 %	Group 2 No.	Group 2 %	z	p
Vitreous hge.	18	90	20	10	0.32	p>0.05
Vitreous hge. + Retinal hge.	2	10	0	0.00	1.45	p>0.05

Table (10): Baseline fundus exam among both groups.

Chart (7) baseline fundus exam.



Results of baseline assessment of fundus by B-scan ultrasonography are shown in table 11.

study group / B-Scan.	Group 1 No.	Group 1 %	Group 2 No.	Group 2 %	z	p
Vitreous hge.	19	95	19	95	___	___
Vitreous hge. + fibrovascular bands.	1	5	1	5	___	___

Table (11): Baseline B-Scan exam among both groups

Improvement of BCVA that was observed in both groups throughout the course of the study is shown in table 12 for control group and table 13 for injected group.

Control group follow up

patient	1ST DAY	1ST WEEK	2ND WEEK	1ST MONTH	3RD MONTH
Case 1	CF 50cm	CF 50cm	CF 50cm	CF 50cm	CF 50cm
Case 2	HM	HM	2/60	4/60	6/60
Case 3	CF 50cm	CF 50cm	CF 50cm	1/60	HM
Case 4	1/60	1/60	1/60	1/60	1/60
Case 5	1/60	1/60	2/60	2/60	HM
Case 6	CF 50 cm	CF 50 cm	CF 50 cm	CF 50 cm	CF 50 cm
Case 7	HM	HM	CF 50 cm	CF 50 cm	HM
Case 8	HM	CF 50 cm	2/60	6/60	6/36
Case 9	CF 50 cm	CF 50 cm	1/60	1/60	CF 50 cm
Case 10	1/60	1/60	1/60	3/60	1/60
Case 11	1/60	1/60	3/60	4/60	CF 50cm
Case 12	HM	1/60	2/60	5/60	6/60
Case 13	HM	HM	HM	1/60	HM
Case 14	HM	CF 50 cm	1/60	6/60	6/24
Case 15	CF 50 cm	CF 50 cm	CF 50 cm	2/60	CF 50 cm
Case 16	HM	HM	CF 50 cm	CF 50 cm	HM
Case 17	2/60	2/60	5/60	6/60	2/60
Case 18	HM	1/60	4/60	6/60	6/36
Case 19	HM	HM	CF 50 cm	CF 50 cm	HM
Case 20	1/60	1/60	1/60	1/60	1/60

Table (12): Control group follow up data

Study group. Post –injection V/A

patient	1ST DAY	1ST WEEK	2ND WEEK	1ST MONTH	3RD MONTH
Case 1	3/60	3/60	6/60	6/36	6/36
Case 2	HM	6/60	6/24	6/18	6/18
Case 3	HM	6/60	6/60	6/36	6/36
Case 4	6/60	6/36	6/24	6/18	6/9
Case 5	4/60	6/36	HM	------	------
Case 6	HM	PL	------	------	------
Case 7	CF 50	3/60	6/60	6/60	6/36
Case 8	1/60	2/60	2/60	3/60	6/60
Case 9	HM	HM	CF 50	CF 50	CF 50
Case 10	1/60	1/60	2/60	6/60	6/18
Case 11	HM	CF 10cm 1/60	CF 10cm 1/60	CF 10cm 2/60	3/60
Case 12	HM	1/60	6/60	6/18	6/9
Case 13	CF 50 cm	1/60	1/60	3/60	6/60
Case 14	HM	1/60	1/60	3/60	6/60
Case 15	1/60	4/60	6/60	6/36	6/36
Case 16	CF 50cm	3/60	3/60	6/60	6/24
Case 17	HM	CF 50cm	1/60	4/60	6/60
Case 18	HM	1/60	2/60	6/60	6/36
Case 19	HM	CF10cm	CF 50cm	2/60	6/60
Case 20	HM	CF 50cm	2/60	6/60	6/12

Table (13): injected group post-injection BCVA

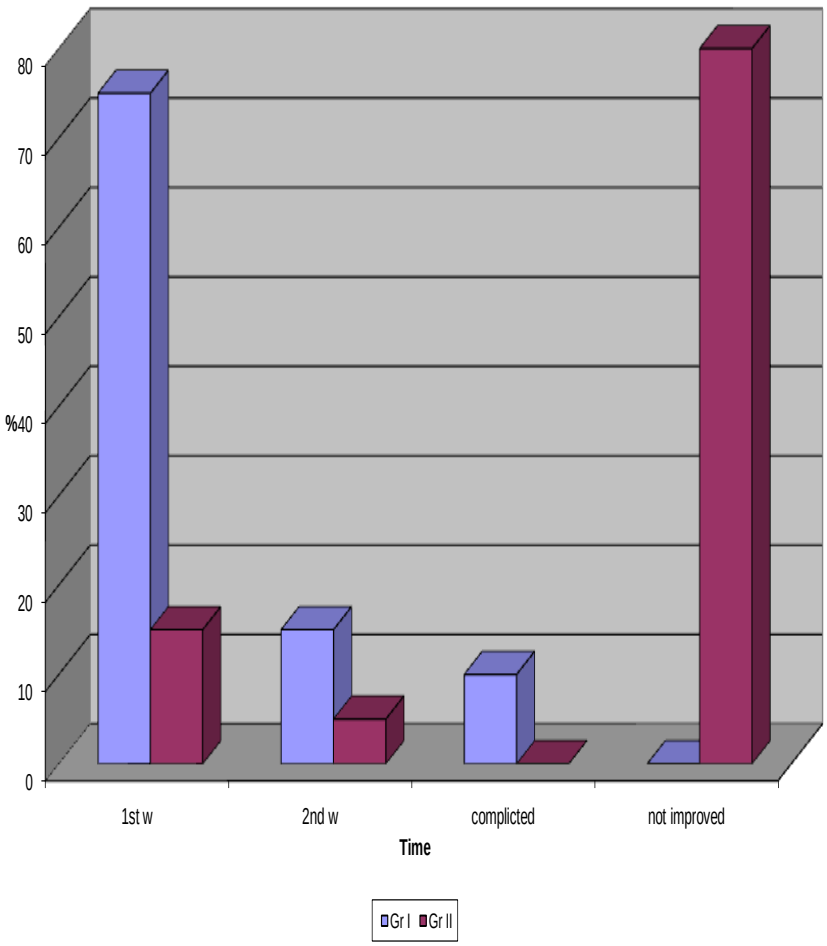
Statistical analysis of time of start of improvement in both groups of the study is shown in table 14& chart 8. 15 patients (75%) from injected group and 3 patients (15%) from control group started their improvement in BCVA after 1 week from start of the study with the difference is statistically significant. ($p<0.01$).

3 patients (15%) from injected group and one patient (5%) from control group started their improvement in BCVA after 2 weeks from start of the study with the difference is statistically non significant ($p>0.05$). injected group show 2 complicated cases (10%) while control group show no complications with difference is statistically non significant ($p>0.05$). the control group reveals 16 cases (80%) that show no improvement. This result when compared with injected group in which the non improved cases are zero, the difference will be statistically highly significant. . ($p<0.001$).

study group / start of Improvement.	Group 1		Group 2		z	p
	No.	%	No.	%		
First week	15	75	3	15	2.83	p<0.01
second week	3	15	1	5	1.0	p>0.05
Complicated	2	10	0	0.00	1.45	p>0.05
Not improved	0	0.00	16	80	5.16	p<0.001

Table (14): Time of start of improvement among both groups.

Chart (8) improvement among the study groups according to time



With regard of amount of improved BCVA lines in both groups (table15); statistical analysis revels no statistical significant data apart from difference between patients of control group that were improved by 9 lines (one pateient-4.5%) and those from injected group that shows the same amount of improvement (zero- 0%). ($p<0.01$).

study group / no. of improved BCVA lines	Group 1 N=18 No.	%	Group 2 N=4 No.	%	Total N=22 No.	%	z	p
1 line	1	5.5	0	0.00	1	4.5	0.48	p>0.05
4 lines	1	5.5	0	0.00	1	4.5	0.48	p>0.05
5 lines	2	11.1	0	0.00	2	9.1	0.69	p>0.05
6 lines	2	11.1	0	0.00	2	9.1	0.69	p>0.05
7 lines	4	22.2	1	25	5	22.7	0.12	p>0.05
8 lines	5	27.8	2	50	7	31.8	0.86	p>0.05
9 lines	0	0.00	1	25	1	4.5	2.17	p<0.05
10 lines	1	5.5	0	0.00	1	4.5	0.48	p>0.05
11 lines	1	5.5	0	0.00	1	4.5	0.48	p>0.05
12 lines	1	5.5	0	0.00	1	4.5	0.48	p>0.05

Table (15): No. of improved BCVA lines among both groups.

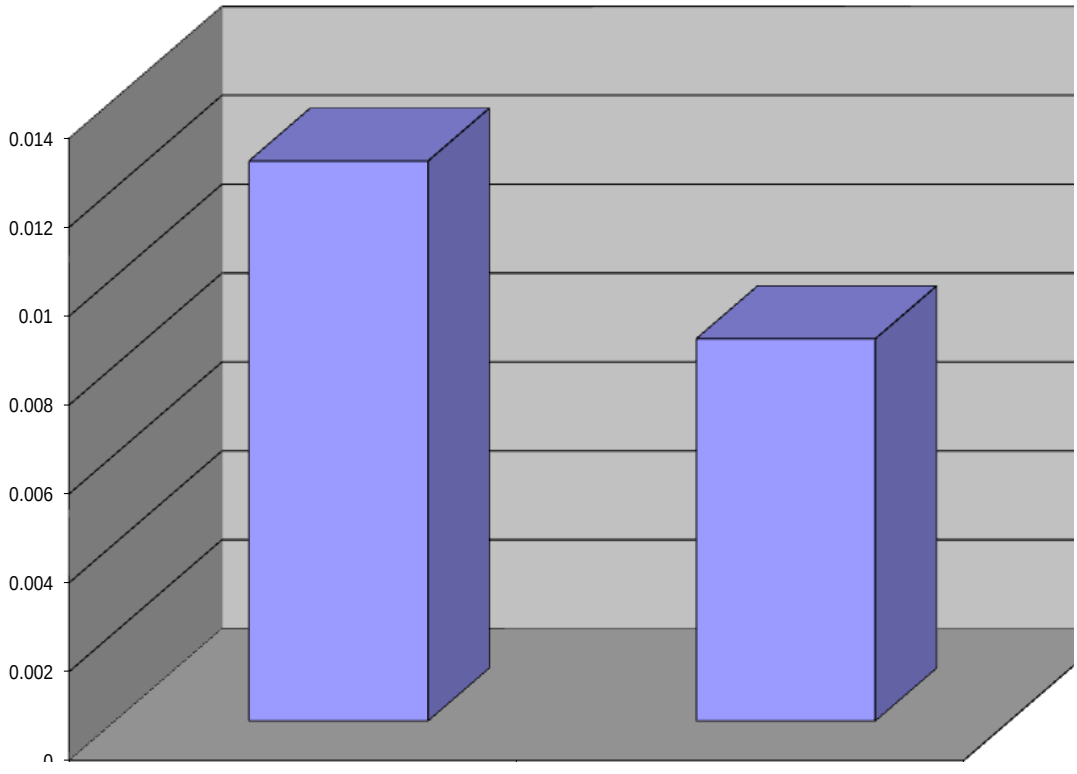
Statistical comparison of mean BCVA in both study groups at different scheduled visits reveals statistically important data.

At baseline visit; mean BCVA of both groups is shown in table 16 & chart 9, in which statistical difference is non significant. p>0.05

Baseline BCVA / study group	MD ± SD	t	p
Group 1 N=20	0.0126±0.025	0.68	p>0.05
Group 2 N=20	0.0086±0.008		

Table (16): MD ± SD of Baseline BCVA among both study groups.

Chart (9) means of baseline BCVA among the study groups

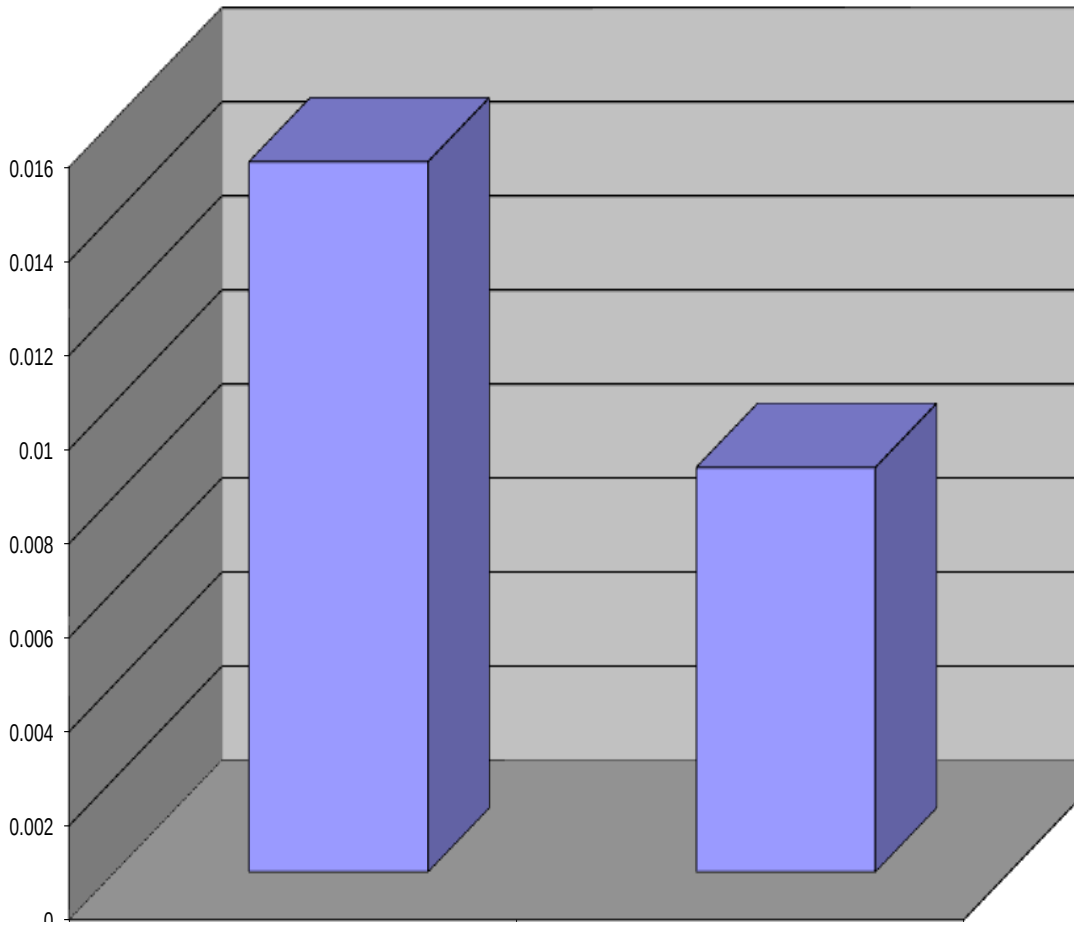


At 1st day visit; mean BCVA of both groups is shown in table 17 & chart 10, in which statistical difference is non significant. p>0.05

1st day BCVA / study group	MD ± SD	t	p
Group 1 N=20	0.0151±0.026	1.07	p>0.05
Group 2 N=20	0.0086±0.008		

Table (17): MD ± SD of 1st day BCVA among both study groups.

Chart (10) means of BCVA 1st day among the study groups

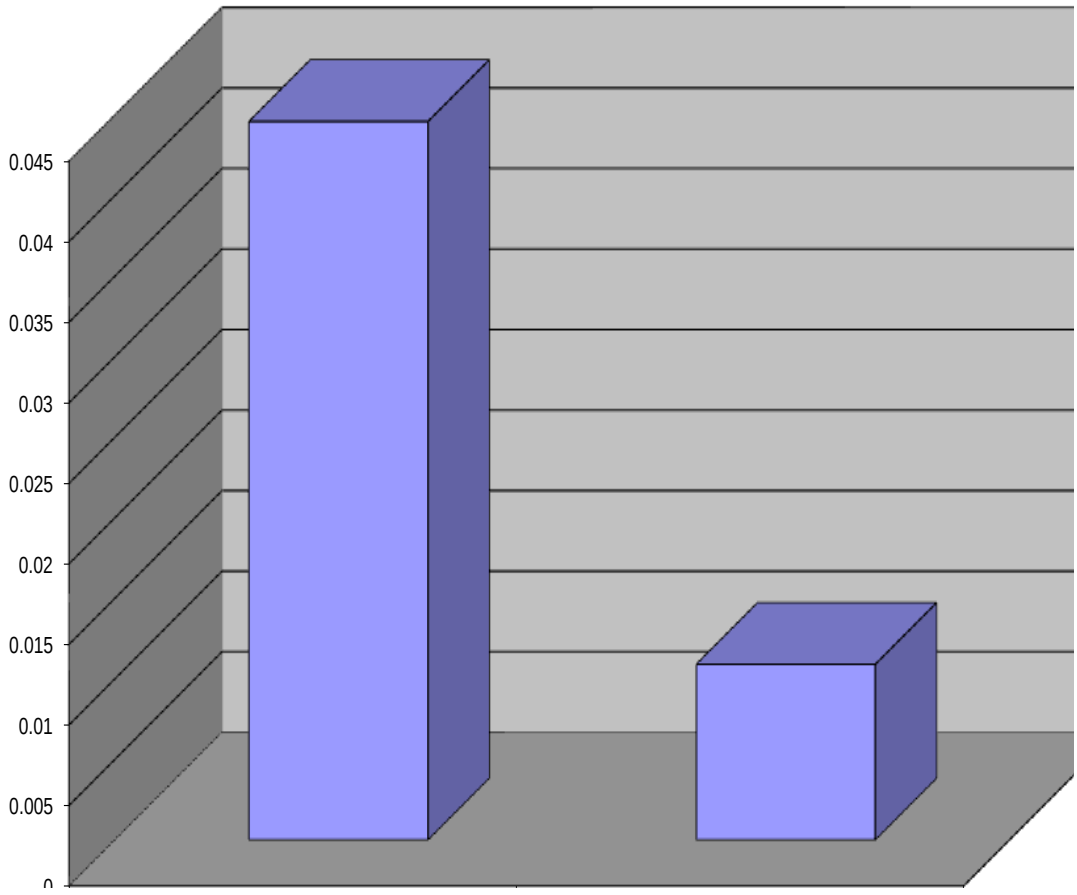


At 1st week visit; mean BCVA of both groups is shown in table 18 & chart 11, statistical difference is significant. p<0.01

1st week BCVA / study group	MD ± SD	t	p
Group 1 N=20	0.0446±0.049	3.05	p<0.01
Group 2 N=20	0.0109±0.007		

Table (18): MD ± SD of 1st week BCVA among both study groups.

Chart (11) means of BCVA 1st week among the study groups

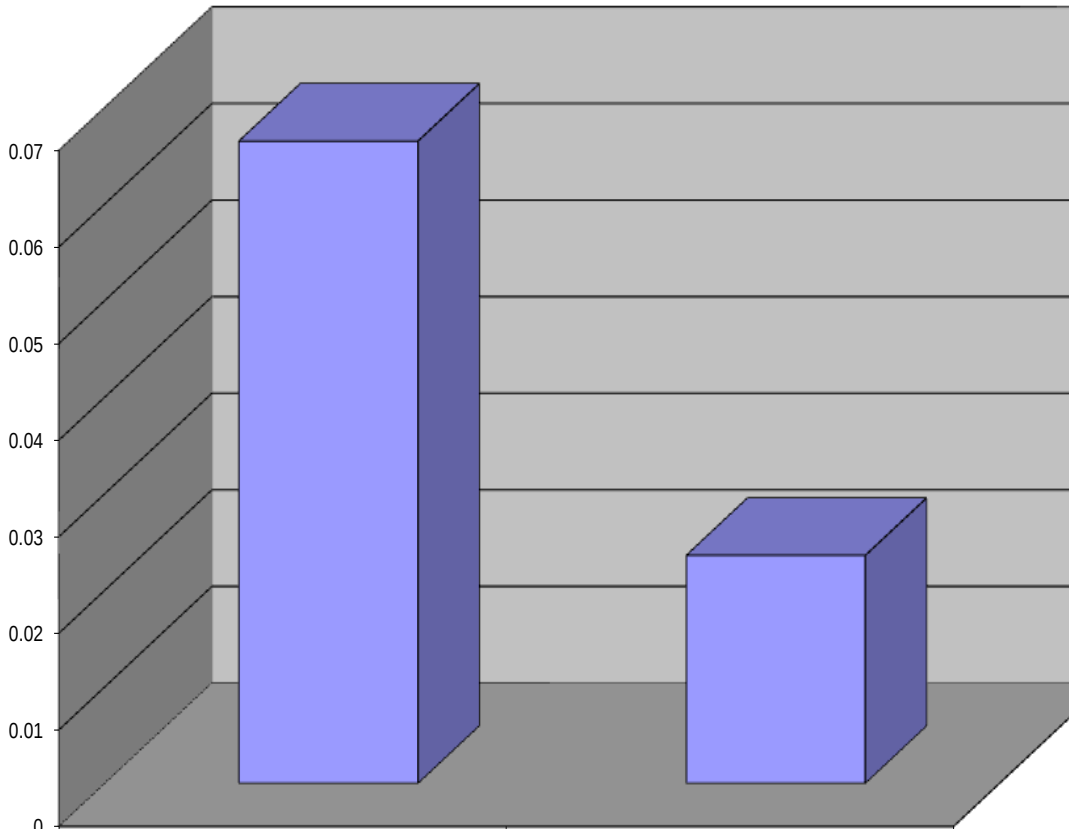


At 2nd week visit; mean BCVA of both groups is shown in table 19 & chart 12, in which statistical difference is significant. p<0.05

2nd week BCVA / study group	MD ± SD	t	p
Group 1 N=20	0.0665±0.074	2.5	p<0.05
Group 2 N=20	0.0236±0.02		

Table (19): MD ± SD of 2nd week BCVA among both study groups.

Chart (12) means of BCVA 2nd week among the study groups

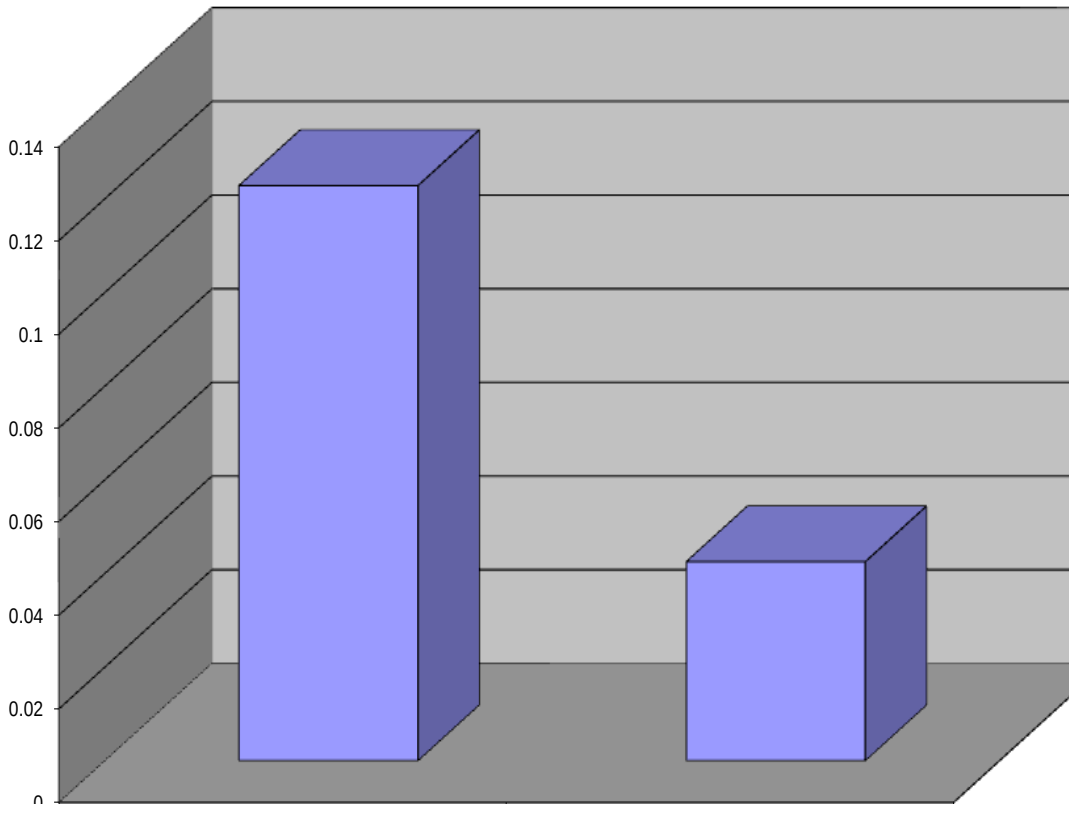


At 1st month visit; mean BCVA of both groups is shown in table 20& chart 13, in which statistical difference is significant. p<0.01

1st month BCVA / study group	MD ± SD	t	p
Group 1 N=18	0.1228±0.102	3.19	p<0.01
Group 2 N=20	0.0425±0.036		

Table (20): MD ± SD of 1st month BCVA among both study groups.

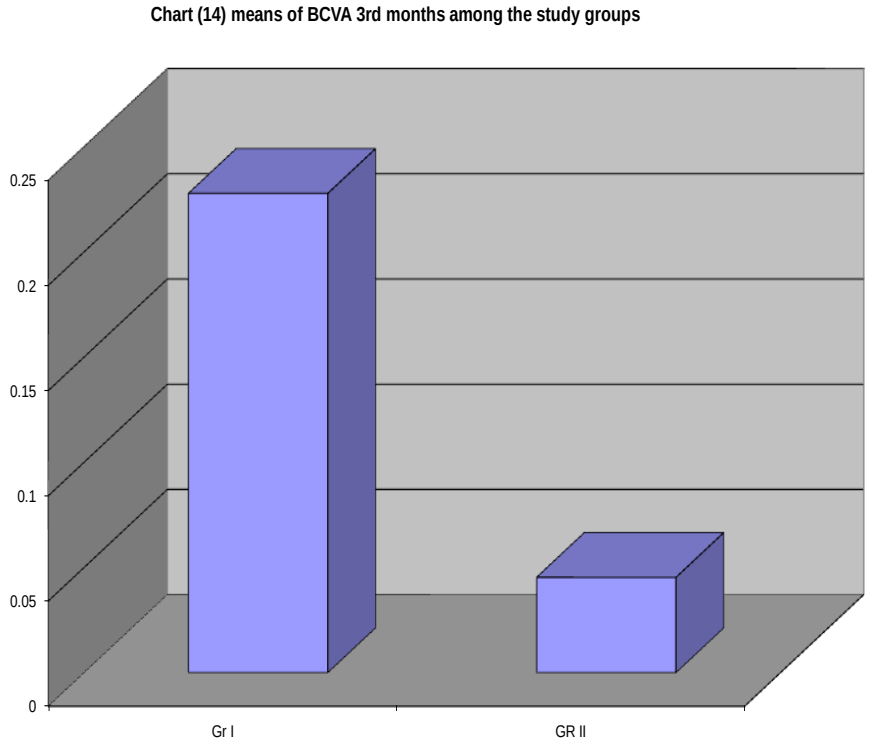
Chart (13) means of BCVA 1st month among the study groups



At 3rd month visit; mean BCVA of both groups is shown in table 21& chart 14, in which statistical difference is highly significant. p<0.001.

3rd month BCVA / study group	MD ± SD	t	p
Group 1 N=18	0.2278±0.188	3.88	p<0.001
Group 2 N=20	0.0453±0.071		

Table (21): MD ± SD of 3rd month BCVA among both study groups.



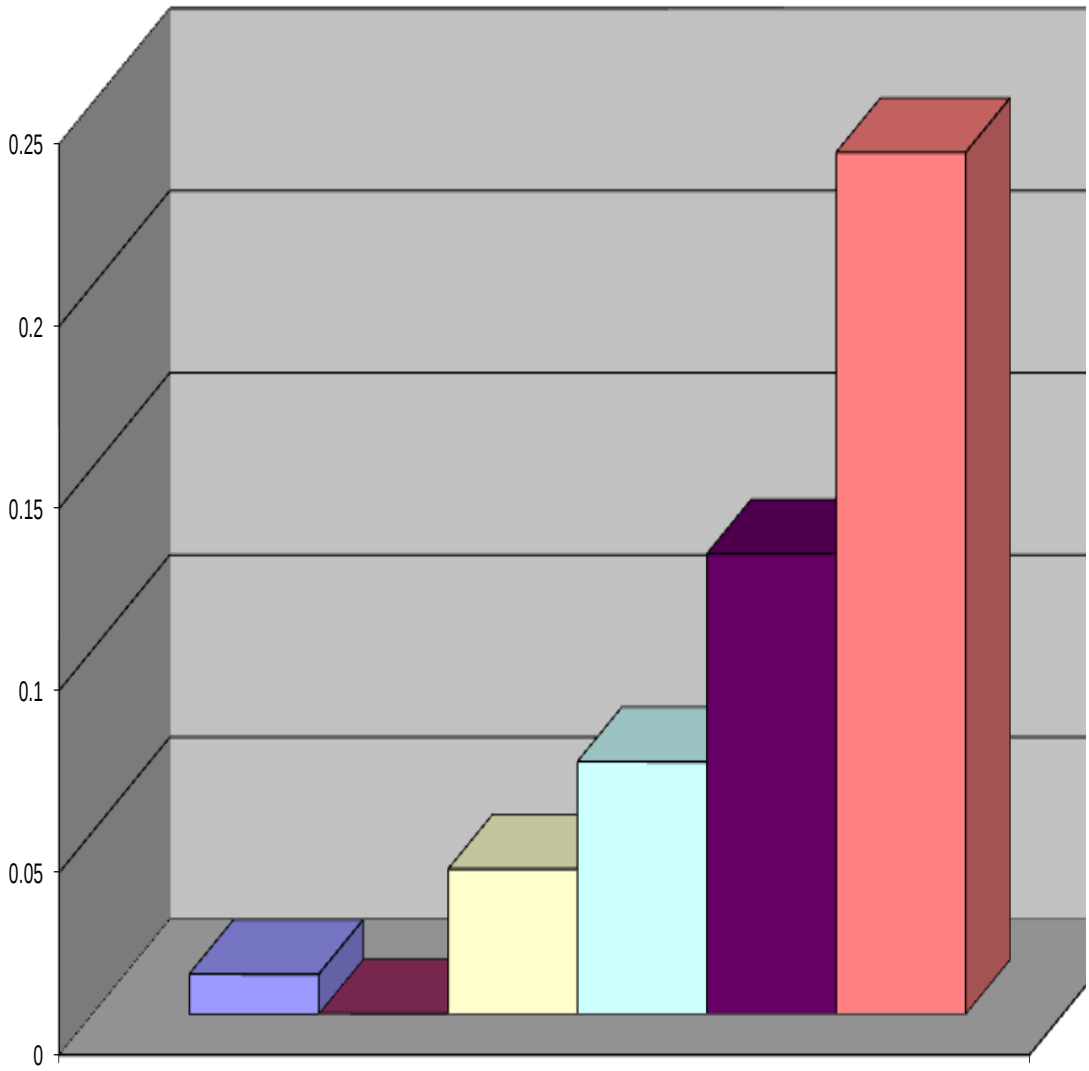
Statistical comparison of mean baseline BCVA with mean BCVA at subsequent visits in the 18 patients of the injected group reveals statistically important data (table 22 & chart 15) in which statistical difference between mean baseline BCVA and means BCVA at subsequent visits is highly significant. $p<0.001$.

BCVA / Time	MD ± SD	MD ± SD of the difference	Paired t	p
Baseline N=18	0.011±0.023	____	____	____
1st day	0.013±0.025	0.002±0.012	t1=0.75	p>0.05
1st week	0.0398±0.043	0.0288±0.032	t2=4.05	p<0.001
2nd week	0.0693±0.075	0.0583±0.065	t3=4.04	p<0.001
1st month	0.1263±0.099	0.1153±0.099	t4=5.24	p<0.001
3rd month	0.2365±0.186	0.2255±0.178	t5=5.7	p<0.001

Table (22): MD ± SD of BCVA baseline, 1st day, 1st week, 2nd week, 1st month and 3rd month among injected group. (18 cases).

t_1: baseline vs. 1st day, t_2: baseline vs. 1st week, t_3: baseline vs. 2nd week
t_4: baseline vs. 1st month, t_5: baseline vs. 3rd month.

Chart (15) means of BCVA Pre and Post-injection at different times among the 1st group



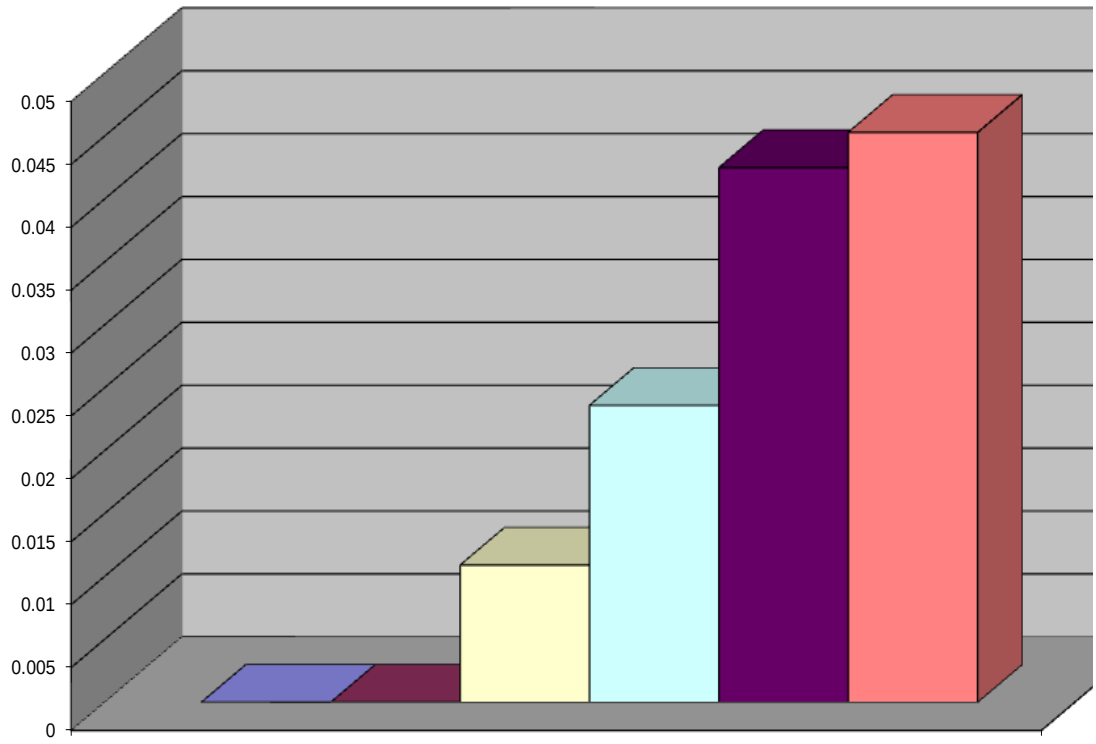
Statistical comparison of mean baseline BCVA with mean BCVA at subsequent visits in the 20 patients of the control group reveals statistically important data (table 23 &chart 16) in which statistical difference between mean baseline BCVA and means BCVA at subsequent visits is significant. $p<0.01$.

BCVA / Time	MD ± SD	MD ± SD of the difference	Paired t	p
Baseline N=20	0.0086±0.008	____	____	___
1st day	0.0086±0.0008	0.0±0.00	____	____
1st week	0.0109±0.007	0.0023±0.005	t1=19.5	p<0.001
2nd week	0.0236±0.020	0.015±0.018	t2=3.53	p<0.01
1st month	0.0425±0.036	0.0339±0.037	t3=3.88	p<0.001
3rd month	0.0453±0.071	0.0367±0.075	t4=2.7	p<0.01

Table (23): MD ± SD of BCVA baseline, 1st day, 1st week, 2nd week, 1st month and 3rd month among control group. (20 cases).

t_1: baseline vs. 1st week, t_2: baseline vs. 2nd week , t_3: baseline vs. 1st month, t_4: baseline vs. 3rd month.

Chart (16) means of BCVA at baseline and subsequent visits among control group



Statistical comparison of mean baseline BCVA with mean BCVA at 1st day, 1st week and 2nd week in the 40 patients of the whole study reveals statistically important data (table 24) in which statistical difference between mean baseline BCVA and mean BCVA at 1st week and 2nd week is highly significant. $p<0.001$, $p<0.01$

BCVA / Time	MD ± SD	MD ± SD of the difference	Paired t	p
Baseline N=40	0.0121±0.02	——	——	——
1st day N=40	0.0133±0.021	0.0012±0.008	t_1=0.95	p>0.05
1st week N=40	0.0314±0.044	0.0193±0.031	t_2=3.93	p<0.001
2nd week N=40	0.043±0.058	0.0309±0.054	t_3=3.62	p<0.01

Table (24): MD ± SD of BCVA baseline, 1st day, 1st week and 2nd week among both groups. (40 cases)

t_1: baseline vs. 1st day, t_2: baseline vs. 1st week, t_3: baseline vs. 2nd week

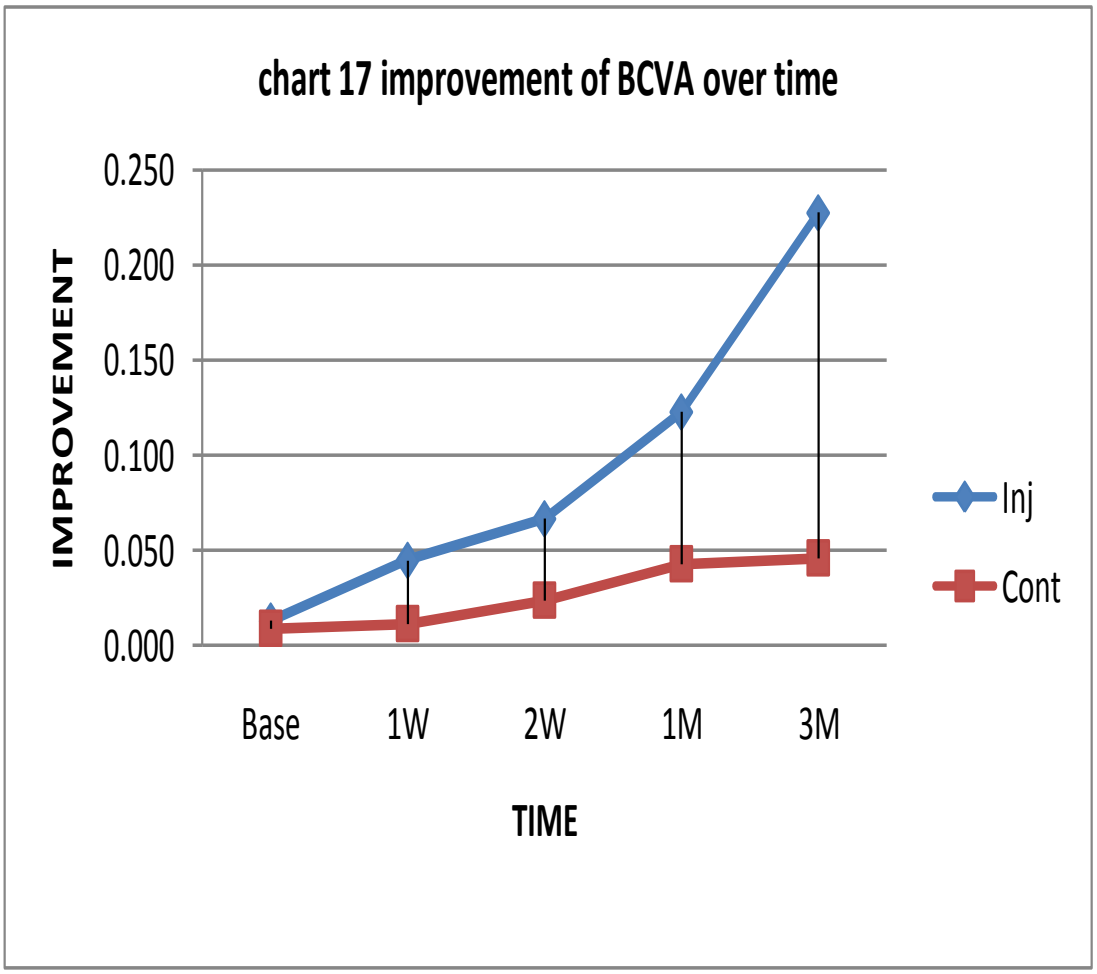
Statistical comparison of mean baseline BCVA with mean BCVA at 1st month, 3rd month in the 38 patients of the whole study(after exclusion of 2 complicated cases) reveals statistically important data (table 25) in which statistical difference between mean baseline BCVA and mean BCVA at 1st month and 3rd month is highly significant. $p<0.001$.

BCVA / Time	MD ± SD	MD ± SD of the difference	Paired t	p
Baseline N=38	0.0097±0.017	____	____	____
1st month N=38	0.0817±0.085	0.072±0.08	t1=5.58	p<0.001
3rd month N=38	0.1324±0.167	0.1237±0.162	t2=4.79	p<0.001

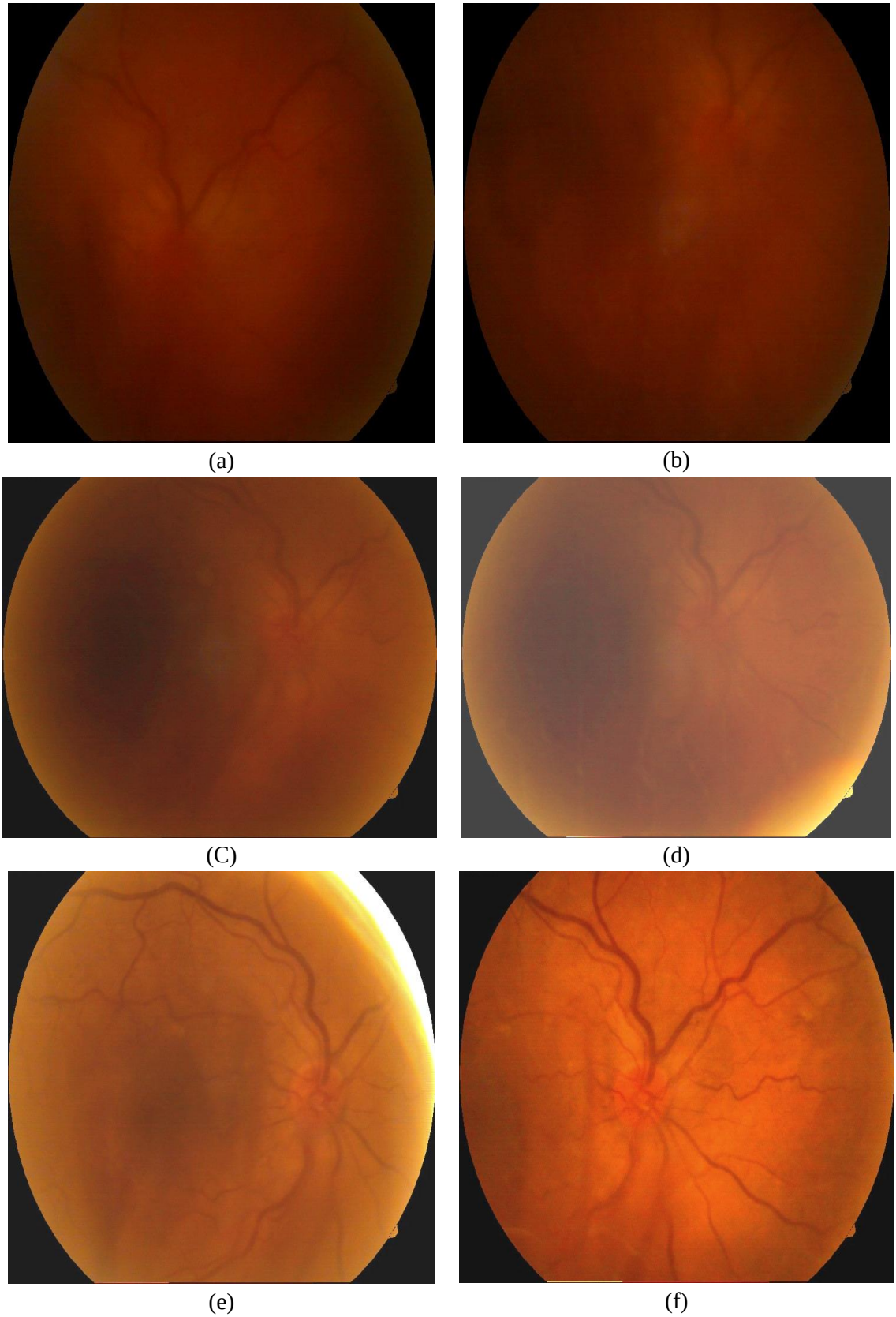
Table (25): MD ± SD of BCVA baseline, 1st month and 3rd month among both groups. (38cases)

t1: baseline vs. 1st month, t2: baseline vs. 3rd month

Comparing changes of BCVA at baseline visit and subsequent visits between both groups of the study is displayed graphically in chart 17.



Figures from 12 to 17 show results of colored fundus photography of some cases of injected group pre and post injection



(a) (b)

(C) (d)

(e) (f)

Fig (12): Coloured fundus photography of an injected case; a- pre injection, b- 1 day post injection, c- 1 week, d- 2 weeks, e- 1 month, f- 3 months post injection.

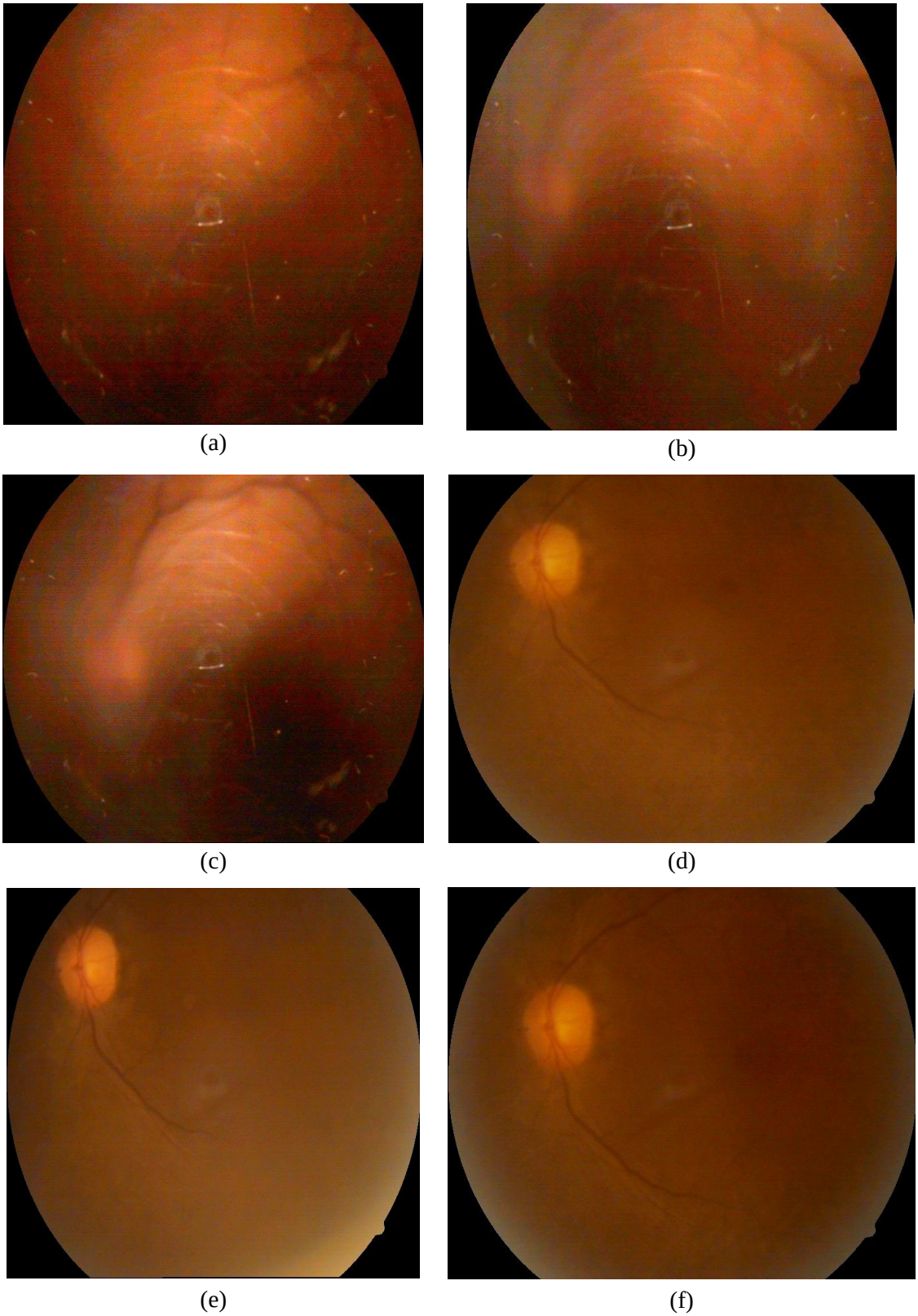
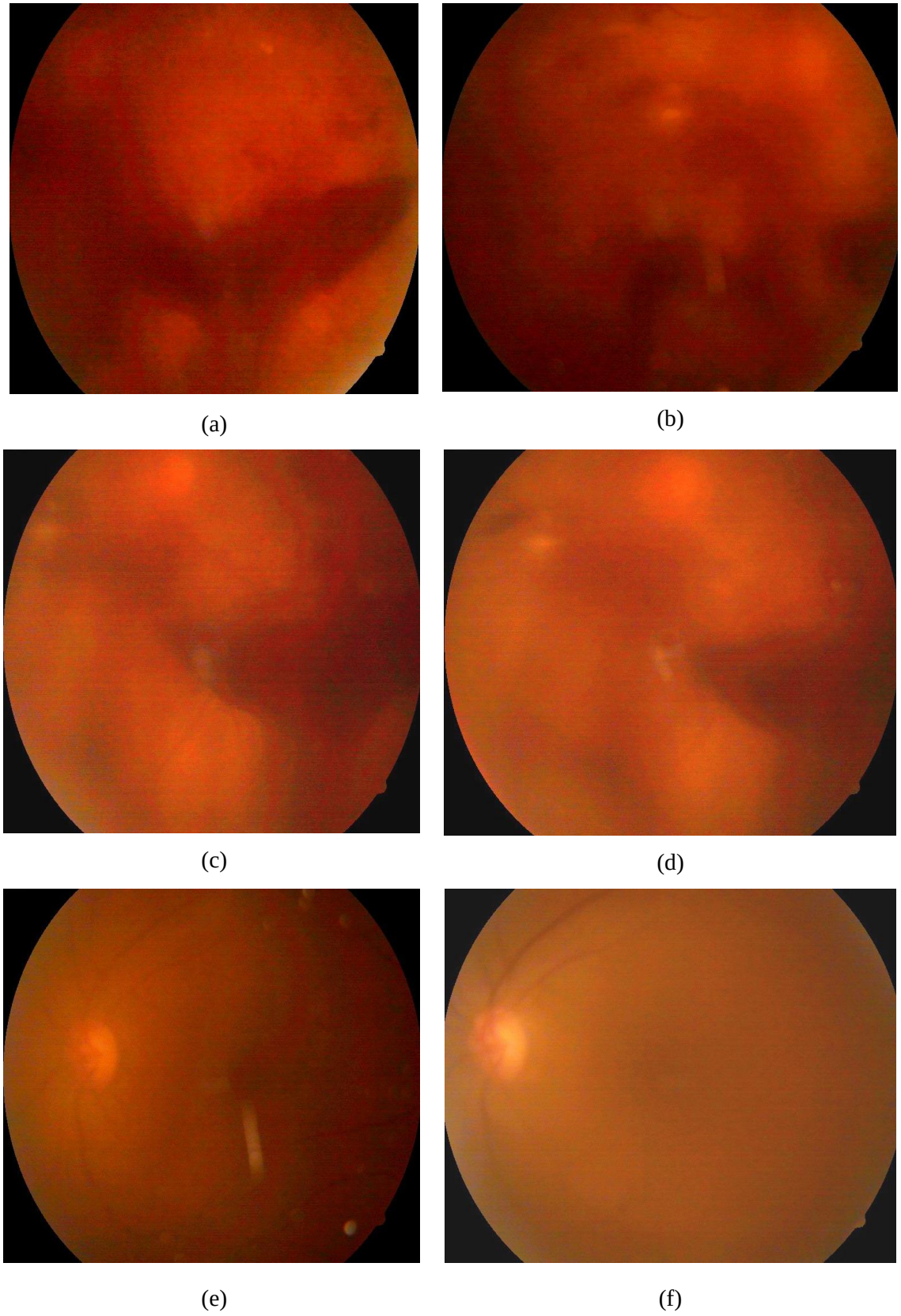


Fig (13): Coloured fundus photography of an injected case; a- pre injection, b- 1 day post injection, c- 1 week, d- 2 weeks, e- 1 month, f- 3 months post injection.



(a) (b)

(c) (d)

(e) (f)

Fig (14): Coloured fundus photography of an injected case; a- pre injection, b- 1 day post injection, c- 1 week, d- 2 weeks, e- 1 month, f- 3 months post injection.

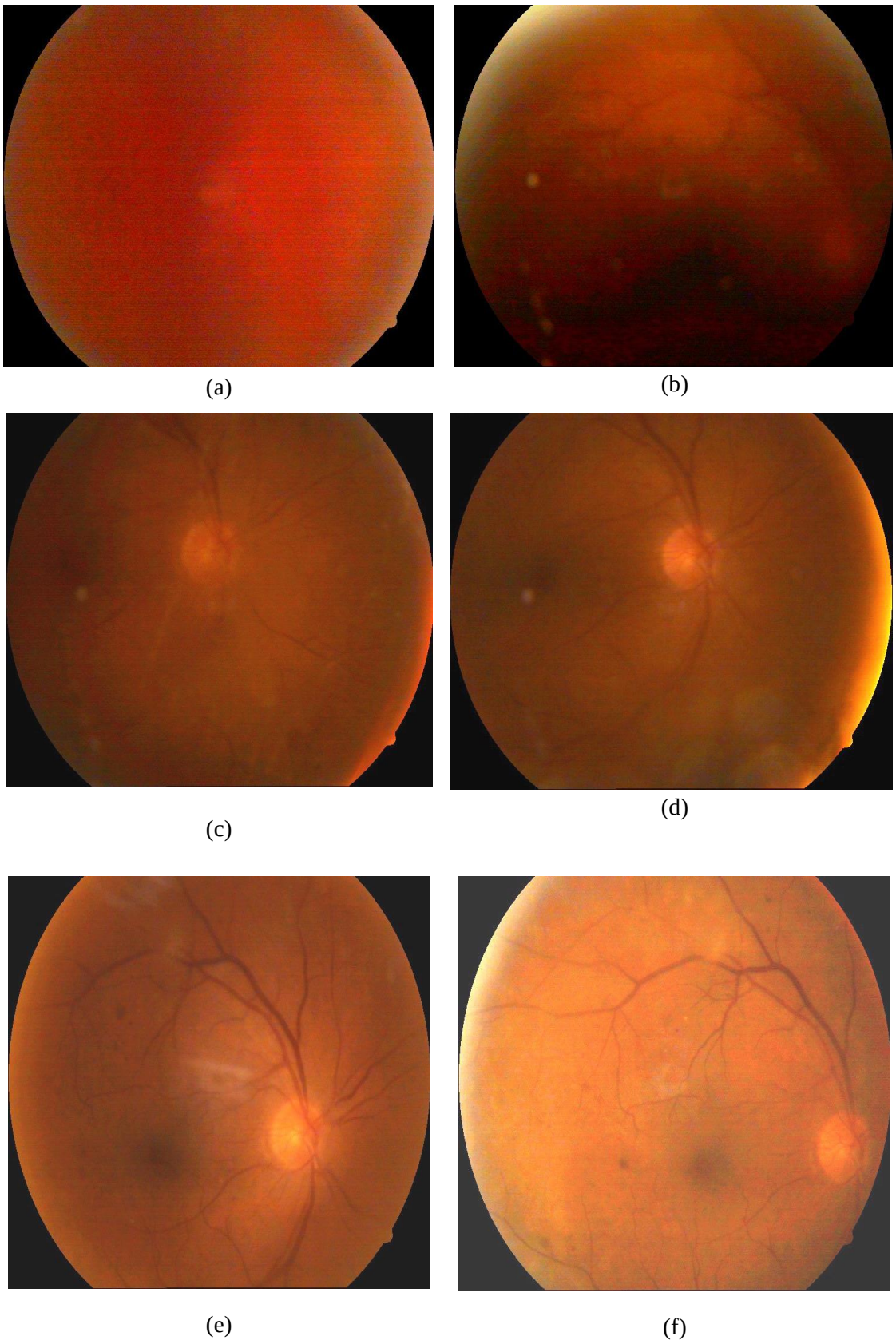


Fig (15): Coloured fundus photography of an injected case; a- pre injection, b- 1 day post injection, c- 1 week, d- 2 weeks, e- 1 month, f- 3 months post injection.

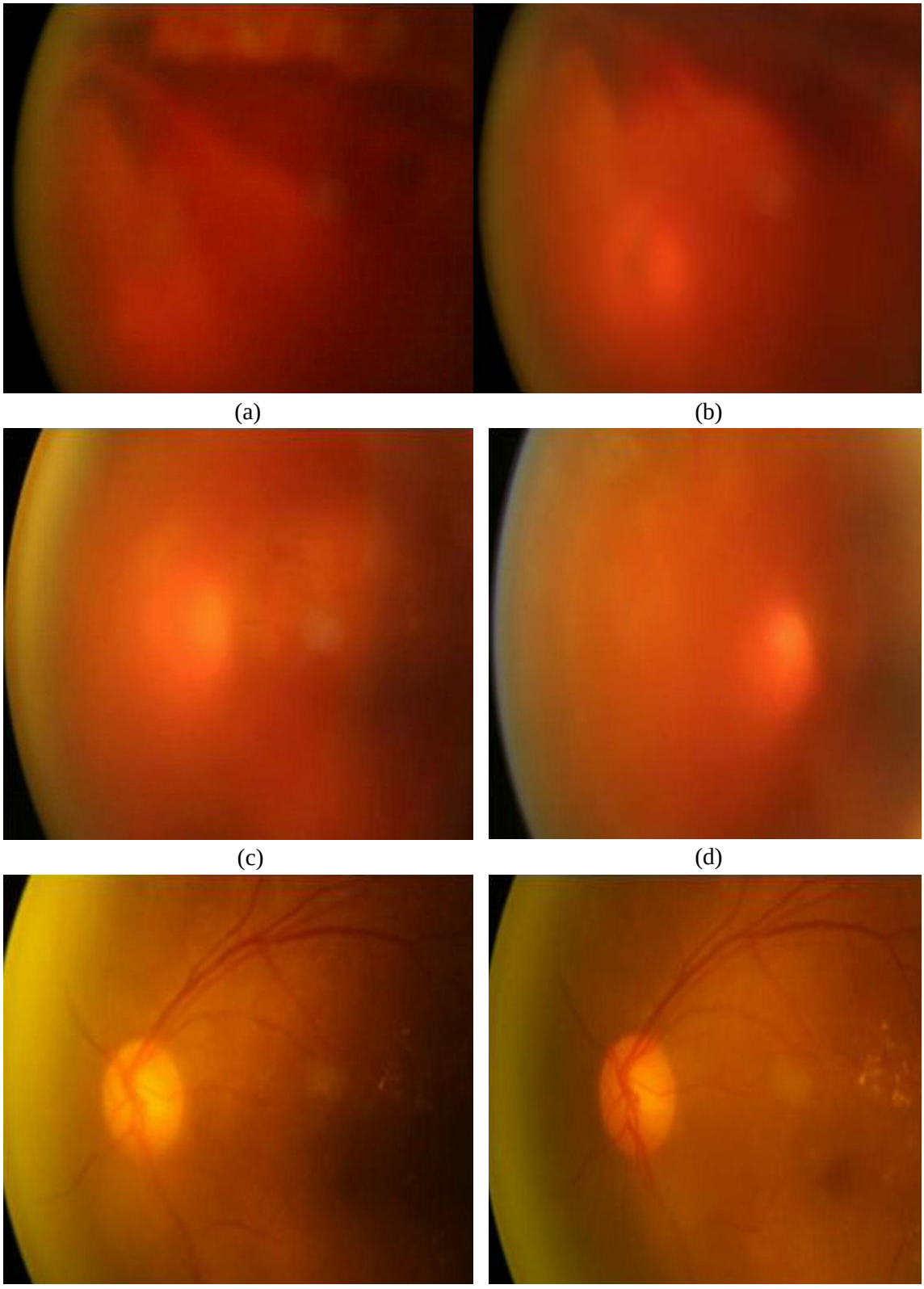


Fig (16): Coloured fundus photography of an injected case; a- pre injection, b- 1 day post injection, c- 1 week, d- 2 weeks, e- 1 month, f- 3 months post injection.

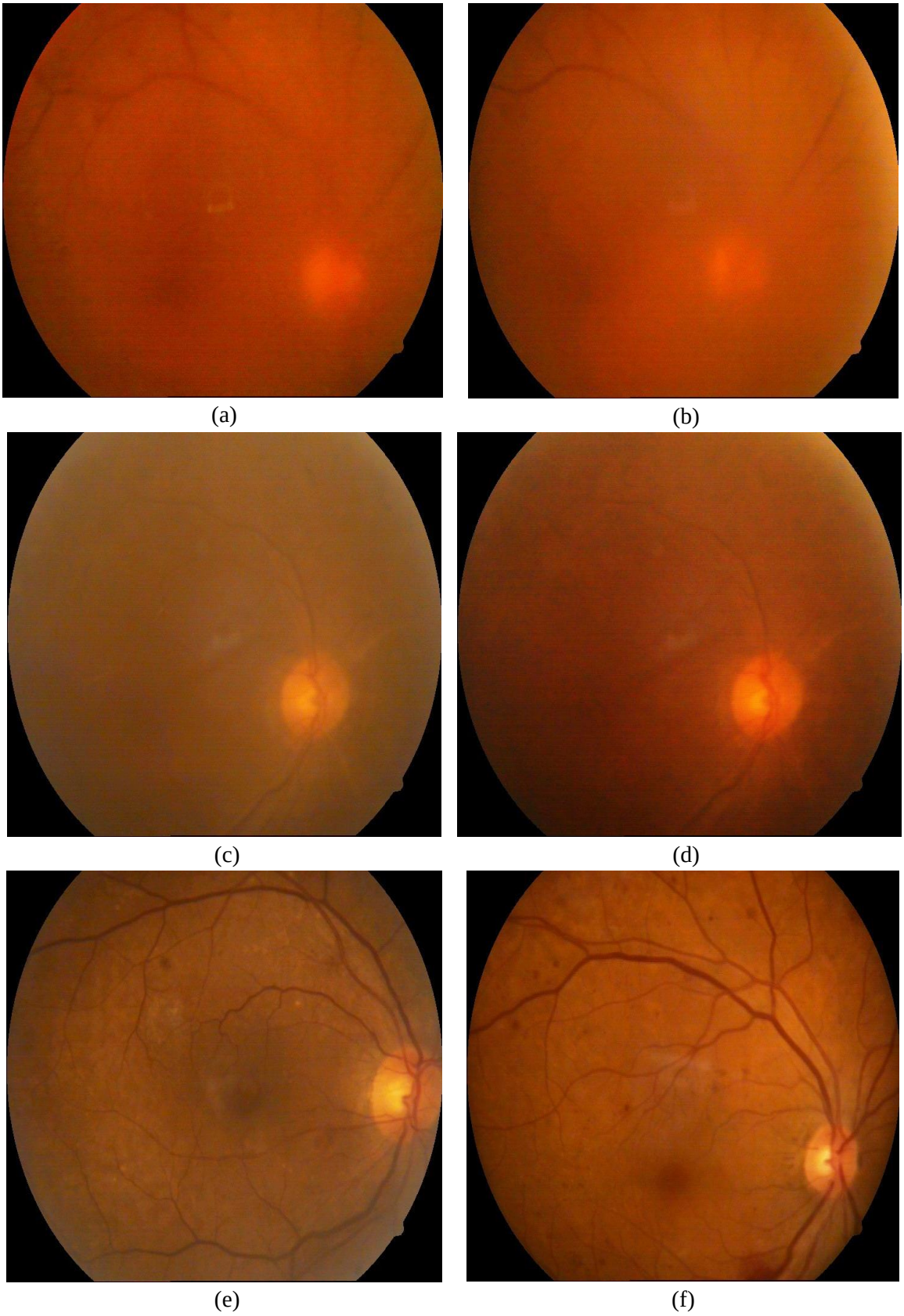
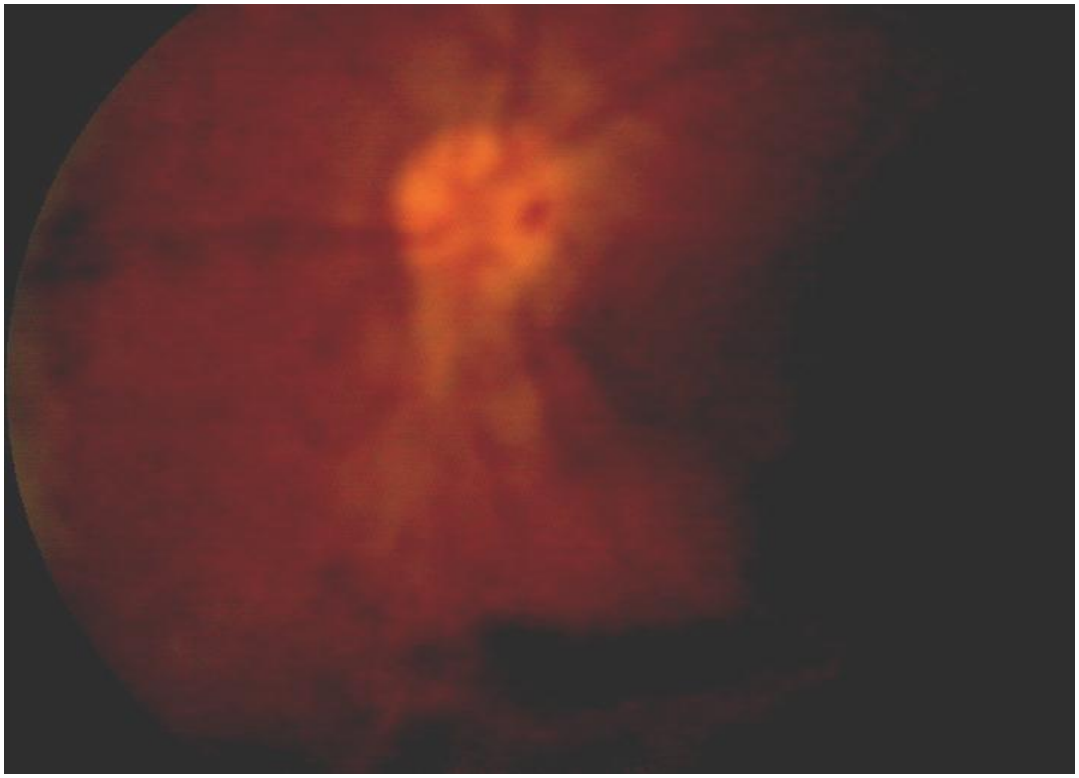


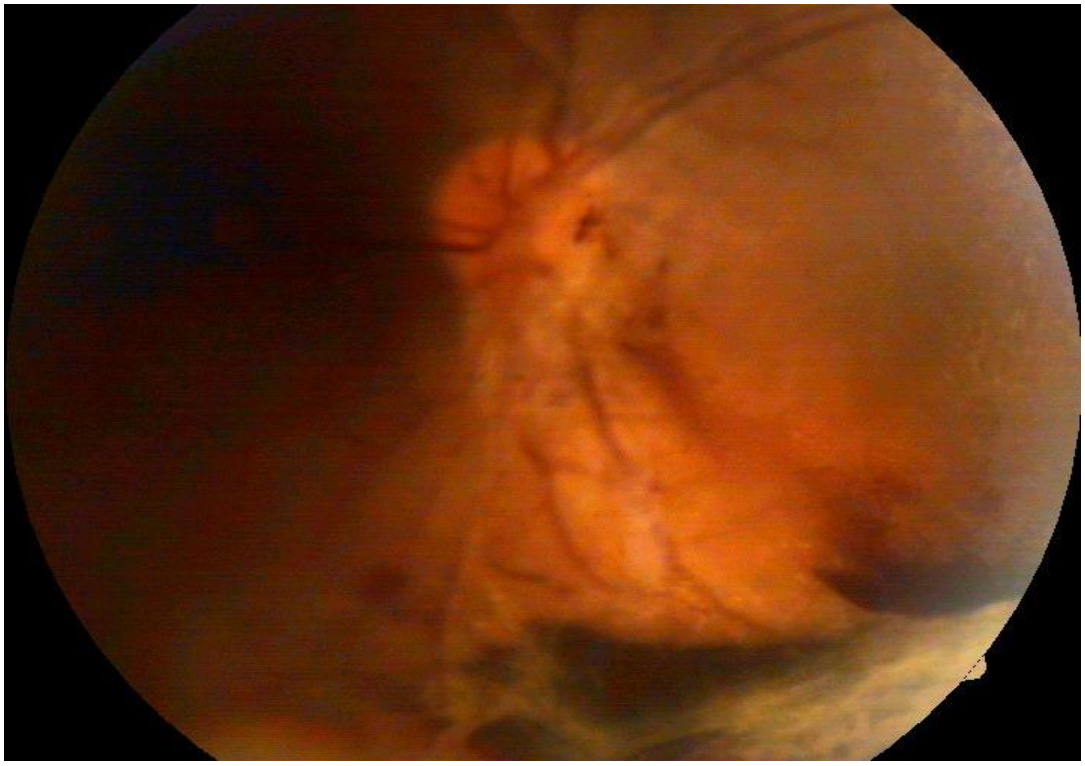
Fig (17): Coloured fundus photography of an injected case; a- pre injection, b- 1 day post injection, c- 1 week, d- 2 weeks, e- 1 month, f- 3 months post injection.

Throughout the course of the study; 2 cases (5%) developed ocular complications. 1 case (2.5%) develop post injection endophthalmitis. This case show non compliance to both post injection medications and dates of follow up visits. This case was firstly seen in 5th post injection day with florid endophthalmitis picture and with visual acuity of HM. The case was managed according to recommendations of endophthalmitis vitrectomy study (EVS) and was given intravitreal injection of ceftazidime 2mg in 0.1 ml and Vancomycin 2mg in 0.1 ml. the patient was followed up during the next 24 hours but unfortunately the visual acuity dropped to PL and pars plana vitrectomy was done to the patient 1 day after injection. Patient final visual acuity was unfortunately no perception of light (No PL).

The second complicated case (2.5%) was 22 years old female with type 1 DM that was presented with diabetic vitreous haemorrhage with BCVA of 4/60 (fig. 29). This case show initial improvement of her BCVA after intravitreal bevacizumab injection to be 6/36 after 1 week of injection. Then the case show marked deterioration of her BCVA to be HM after 2 weeks. Coloured fundus photography and B –scan ultrasonography reveals development of tractional retinal detachment that involves posterior pole in-between major vascular arcades. The patient was prepared for pars plana vitrectomy that was done 1 week later. The patient final visual acuity was 1/60.



(a)



(b)

Fig (18): Complicated case a) pre injection b) post injection with central TRD

Further treatment was applied to all patients based on individual bases. All cases that show non clearance of vitreous haemorrhage were considered candidates for pars plana vitrectomy. They include 15 patients of control group (75%) and 2 patients (10%) from injected group. Theses 2 patients were the complicated cases from injected group; endophthalmitis and tractional retinal detachment that were also treated by Pars plana vitrectomy .all other cases from both groups that show total or even partial absorption of vitreous hemorrhage which was reflected on correction of baseline BCVA were treated by argon laser panretinal photocoagulation. They include 5 cases (25%) of control group and 18 cases (90%) from injected group.