RESULTS

RESULTS

All the 36 cases were females. Their age ranged between 20 & 42 years, with a mean of 27.6.

The patients were allocated to one of two groups according to assessment of disease activity with the Lupus Activity Criteria Count, (LACC). Fifteen patients (42%) had an inactive disease at the time of examination (LACC ≤ 1) while 21 (58%) patients were active cases (LACC ≥2), (Fig.1).

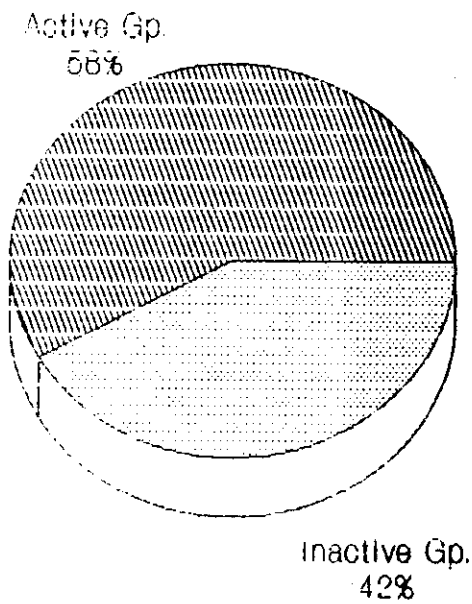
Five cases of the thirty-six patients, (13.89%), were found to have retinal affection on ophthalmoscopy and fundus fluorescein angiography (Fig.2). Four of them (11.11%) had an active disease [LACC > 2, cases No 16, 17, 18, and 19]. The fifth case had an inactive disease [LACC = 1, case No. 15 (2.78%),] (Fig.2).

The prevalence of retinal affection among the whole group, whether active or inactive, gives no statistical significance (P-value > 0.05). Comparing the prevalence of retinal affection among the group with active disease to that among the group with inactive disease was highly significant, (P-value < 0.001), denoting more prevalent retinal affection among patients with active disease (Table 7).

(Table 7) THE RELATIONSHIP BETWEEN THE ACTIVITY OF SLE AND THE RETINOPATHY.

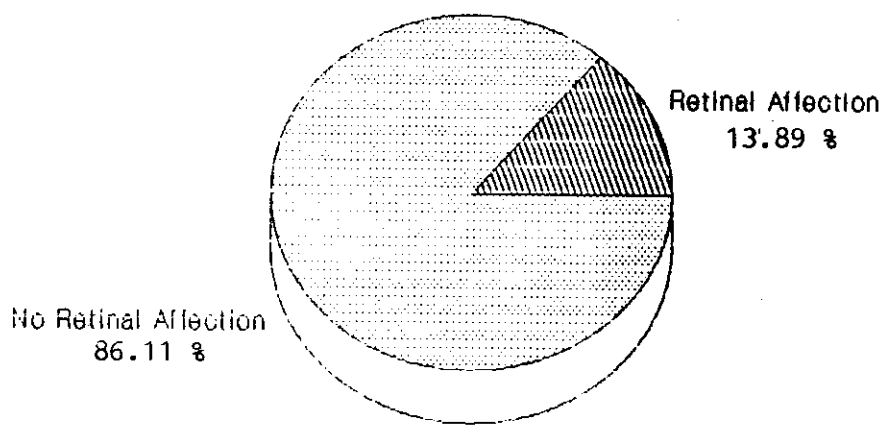
	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Disease Activity												
Active	1	2.78%	3	8.33%	0	0.00%	4	11.11%	17	47.22%	21	58.33%
Inactive	0	0.00%	0	0.00%	1	2.78%	1	2.78%	14	38.89%	15	41.67%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

[Fig. 1] DISTRIBUTION OF ACTIVE AND INACTIVE CASES OF SYSTEMIC LUPUS ERYTHEMATOSES AMONG THE STUDIED SAMPLE.



TOTAL SAMPLE = 36

[Fig. 2] DISTRIBUTION OF THE STUDIED CASES ACCORDING TO THE OCCURANCE OF RETINAL AFFECTION.

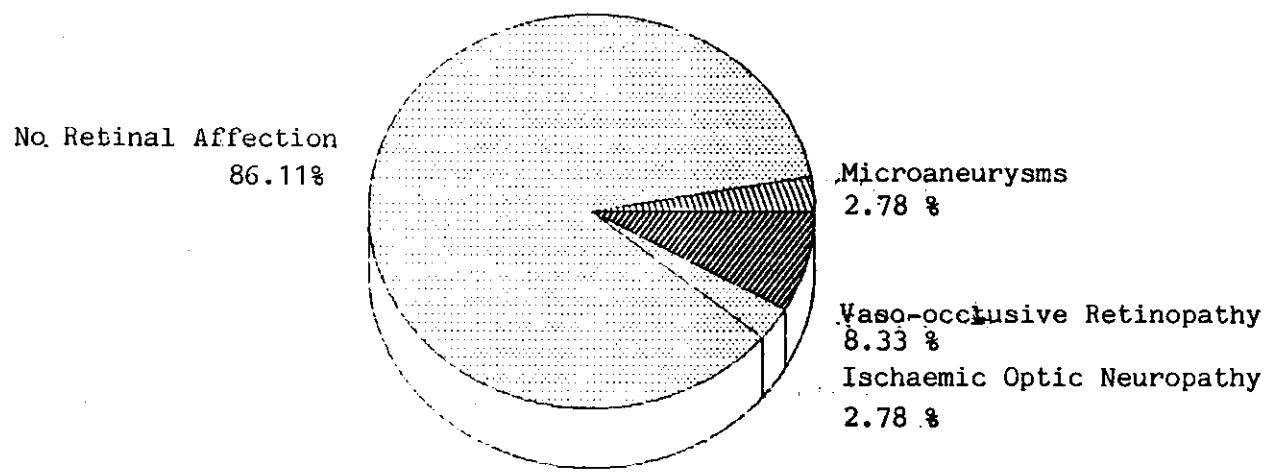


TOTAL SAMPLE = 36

Out of the five cases with retinal affection, three cases (8.33%) with active disease had vaso-occlusive retinopathy, [cases No. 16, 17 and 18]. One case (2.78%) with active disease was diagnosed as having SLE after she presented with left ischaemic optic neuropathy, (case No. 19). The fifth case (No. 15) with inactive disease had retinal affection in the form of microaneurysms (2.78%), (Fig. 3).

The clinical features, the LACC score, and the fundus fluorescein angiography findings of the five cases with retinal affection are recorded in table 8.

[Fig. 3] DISTRIBUTION OF CASES WITH RETINAL AFFECTION WITHIN THE WHOLE SAMPLE.

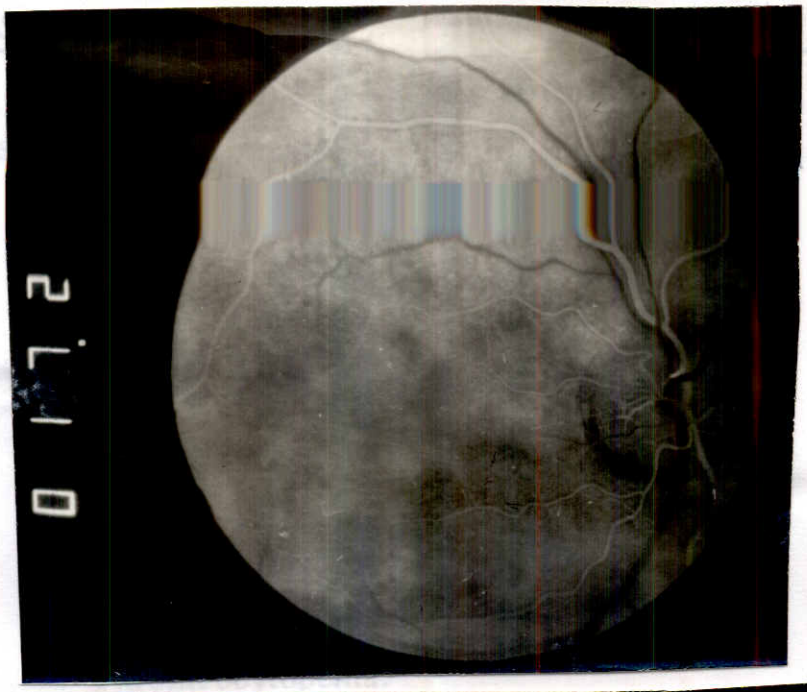


TOTAL SAMPLE = 36

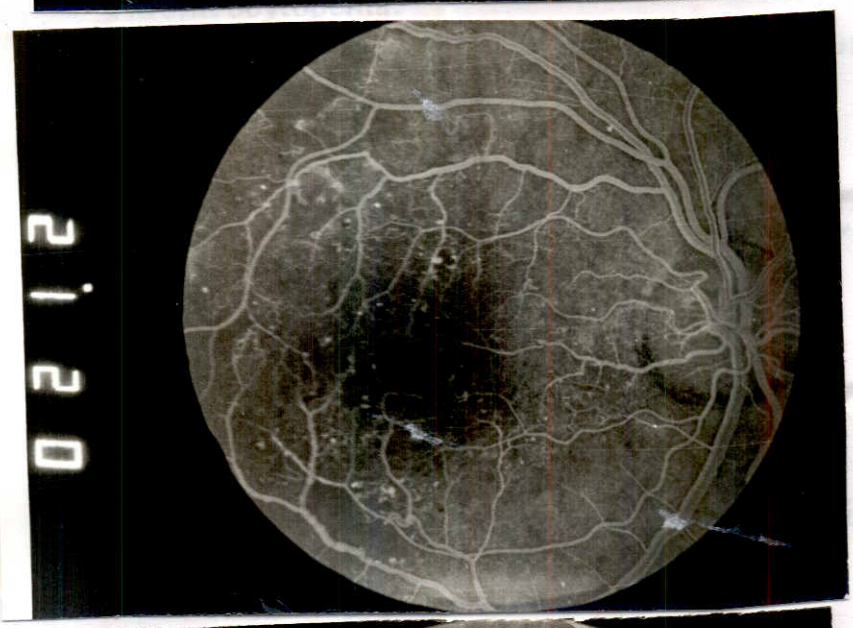
Table 8

P. No.	Age Sex	Disease Duration	Major Manifestations	Medications (Daily)	LACC	Visual Acuity RT	Visual Acuity LT	Fundus Fluorescein Angiography
15	30/F	1 y	Raynaud's phenomenon	Prednisone 10 mg	1	6/9	6/9	Scattered microaneurysms between the superior and inferior arcades.
16	34/F	18 m	Rash-Alopecia-Arthritis-livedo reticularis-Proteinuria-Thrombocytopenia-↑ESR-+ve Antiphospholipid antibodies-↑Anti ds DNA titer-↓Serum complement	Prednisolone 50 mg	5	6/9	6/9	Right eye: - Scattered areas of capillary non-perfusion with widening of the foveal avascular zone. - Attenuation and irregular caliber of the arterioles and venules with staining of their walls and dye leakage Left eye : The same findings as in the right eye plus non-perfusion of the superotemporal arteriole and subsequent late filling of the superotemporal venule.
17	22/F	2 y	Alopecia-Rash-Seizures Raynaud's phenomenon-+ve Anti-phospholipid antibodies-Thrombocytopenia-↑Anti ds DNA titer-↓serum complement-↑ESR	Hydroxychloroquine 250 mg +Prednisolone 40 mg	5	6/6	2/60	Left eye : - Staining of the walls of the inferotemporal venule and arteriole with leakage of the dye through the walls. - Large area of capillary nonperfusion along the inferotemporal quadrant was detected.
18	40/F	6 y	Arthritis-Seizures-Livedo reticularis-↑ESR-↑anti ds DNA titer-↓serum complement-+ve antiphospholipid antibodies Thrombocytopenia	Hydroxychloroquine 250mg + Prednisolone 40 mg	4	6/36	6/12	Right eye: - Scattered areas of capillary non-perfusion, with enlargement of the foveal avascular zone. Irregular caliber of the vessels. Occlusion of the macular branch of the inferotemporal arteriole. Disc neovascularization. Left eye: - Like right eye.
19	26/F	?	Arthritis-Raynaud's phenomenon↑ANA titer-↑anti ds DNA titer-↓serum complement-leucopenia	Prednisone 80 mg	4	6/9	C.F. 30cm	Left eye: - Late hyperfluorescence of the optic disc due to dye leaking from the disc vessels.

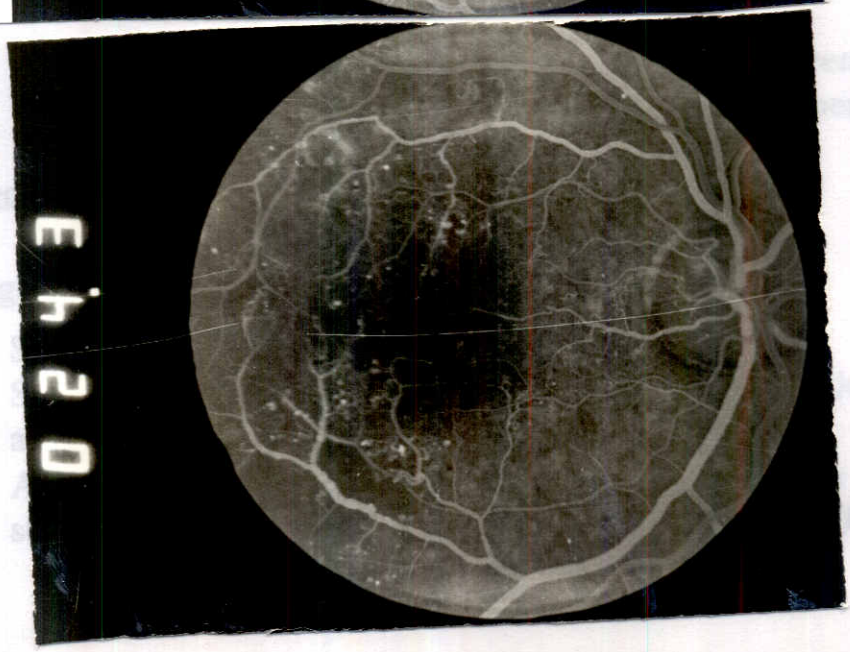
PATIENT NO. 15
RIGHT EYE
(Fig. 4)



Arterial phase, normal findings.



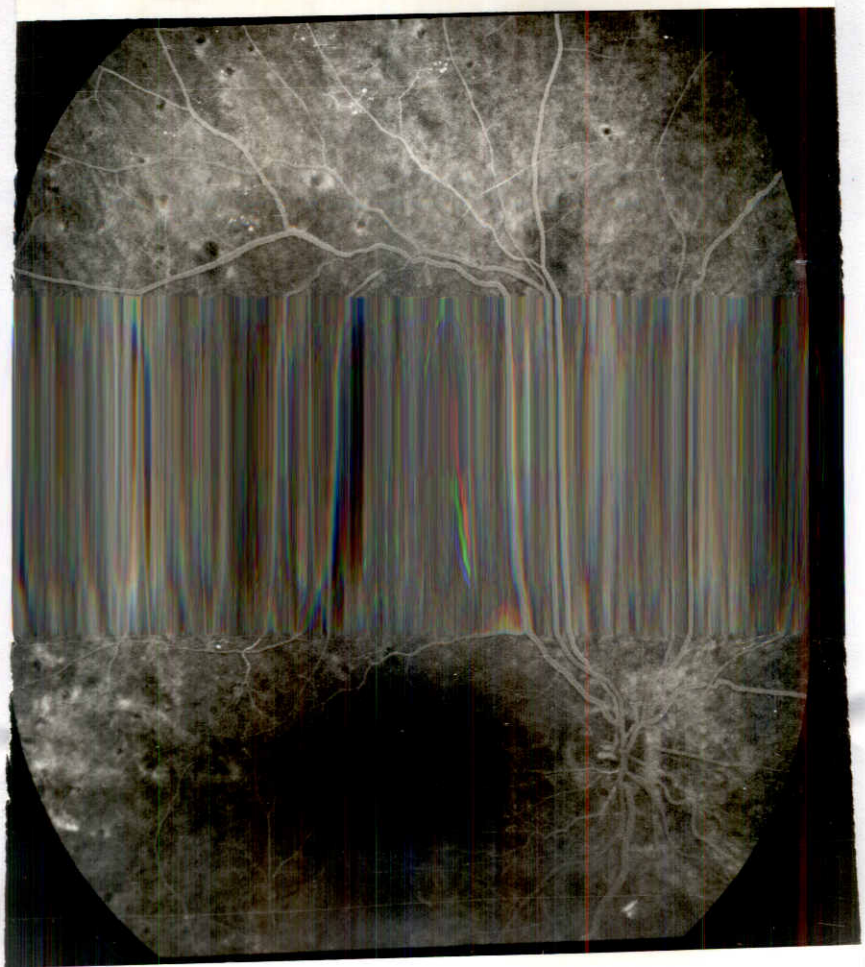
Mid-venous phase showing multiple hyperfluorescent spots between the superior and inferior arcades.



Late venous phase showing no change in the size of the hyperfluorescent spots (microaneurysms).

PATIENT NO.16
RIGHT EYE
(Fig. 5)

Red-free photograph demonstrating sheathing of the blood vessels.



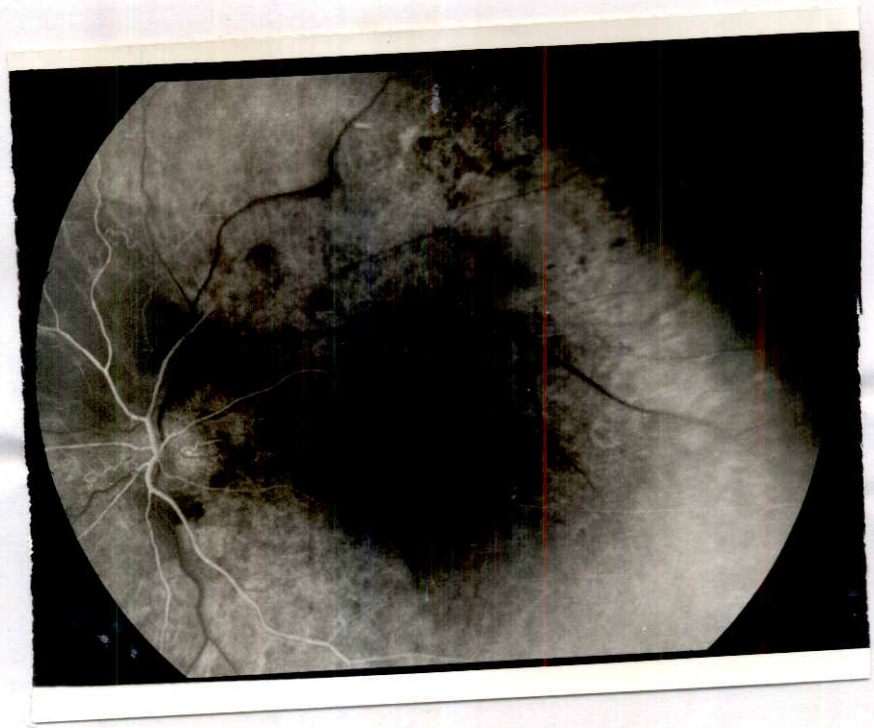
Late venous phase angiogram, (50 seconds after injection), showing scattered areas of capillary non-perfusion. There are local fluorescence superior and temporal to the macula corresponding to areas of dye leakage and spots of blocked fluorescence corresponding to areas of retinal haemorrhage.

Left Eye:

- Early phase demonstrated non-perfusion of the supero-temporal arteriole and subsequent late filling of the superotemporal venule.
- Scattered areas of capillary non-perfusion, with widening of the foveal avascular zone.
- Late phase demonstrated staining of the wall of the superotemporal venule. Focal areas of dye leakage could be detected superior to the macular area (Fig.6).

PATIENT NO.16
LEFT EYE
(Fig. 6)

A red free photograph showing:
- The superotemporal arteriole appears thread like.
- Sheathing of the superotemporal venule.



Early arterial phase, (15 seconds after injection), showing non filling of the superotemporal arteriole as well as attenuation and irregular caliber of the arterioles.

Case No.17:

- A 22-year-old female with SLE.

- Duration of the disease = 2 years.

Clinical and laboratory manifestation:

a- Alopecia.
b- Malar rash
c- Seizures.
d- Raynaud's phenomenon.
e- Positive antiphospholipid antibodies.
f- Thrombocytopenia.
g- Elevated anti ds DNA antibody titer and low serum complement.
h- Elevated ESR.

- She was receiving oral hydroxychloroquine 250 mg and oral predn-isolone 40 mg, as a daily dose.

- LACC = 5.

Ophthalmic examination revealed:

- Normal right eye with 6/6 acuity.

- Left eye visual acuity was 2/60 with normal anterior segment and intraocular pressure.

Indirect ophthalmoscopy of the left eye revealed:

- Sheathing and irregular caliber of the inferotemporal venule and arteriole, with scattered superficial haemorrhages and soft exudates along the inferotemporal quadrant.

FFA of the left eye:

- It disclosed staining of the walls of the inferotemporal venule and arteriole with leakage of the dye through the walls. Large area of capillary non perfusion along the inferotemporal quadrant was detected (Fig.7).

Case No.18:

- A 40-year-old woman with SLE.

- Disease duration = 6 years.

Clinical and laboratory manifestations:

a. Arthritis.
b. Seizures.
c. Livedo reticularis.
d. Elevated anti double-stranded DNA binding titer, and low serum complement.
e. Positiva antiphospholipid antibodies.
f. Thrombocytopenia.
g. Elevated ESR.

LACC = 4

- She was receiving oral hydroxychloroquine 250 mg and oral prednisolone 40 mg as a daily dose.

Ophthalmic examination revealed:

Visual acuity of 6/36 OD & 6/12 OS. Slit lamp examination as well as intraocular pressure were normal.

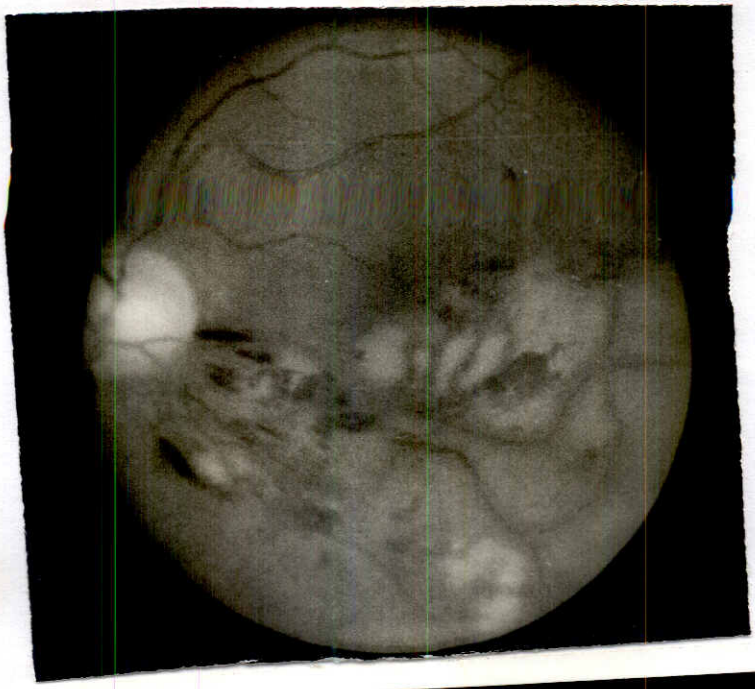
Indirect ophthalmoscopy showed:

Scattered soft exudates and superficial haemorrhages in both fundi. Bilateral disc neovascularizations were seen.

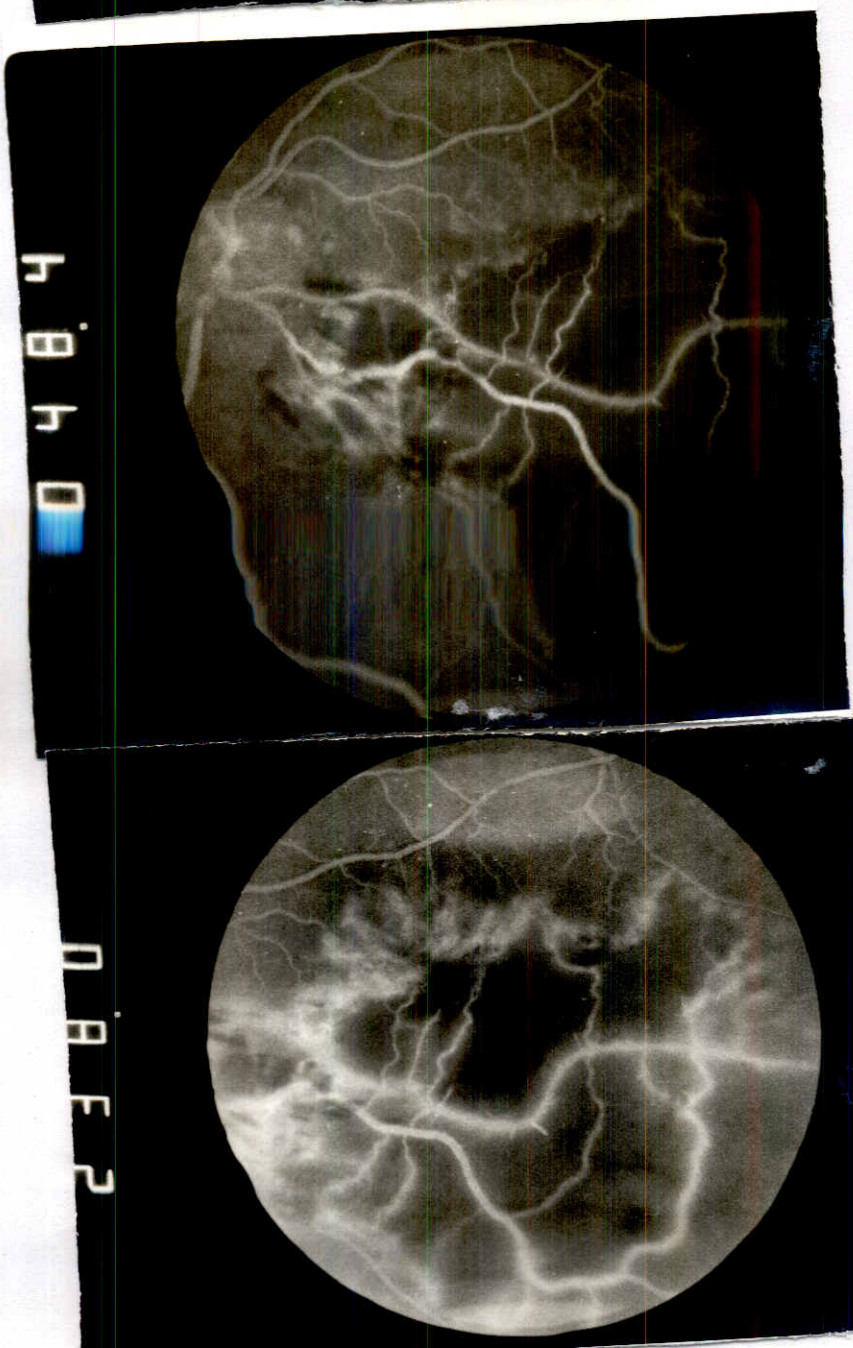
Fundus fluorescein angiography of the right eye showed:

- Scattered areas of capillary non-perfusion, with enlargement of the foveal avascular zone.

PATIENT NO. 17
LEFT EYE
(Fig. 7)



A photograph taken before fluorescein injection showing multiple white areas of soft exudates and superficial haemorrhages through out the inferotemporal quadrant.



Late arterio-venous angiogram showing capillary non-perfusion through-out the inferotemporal quadrant.

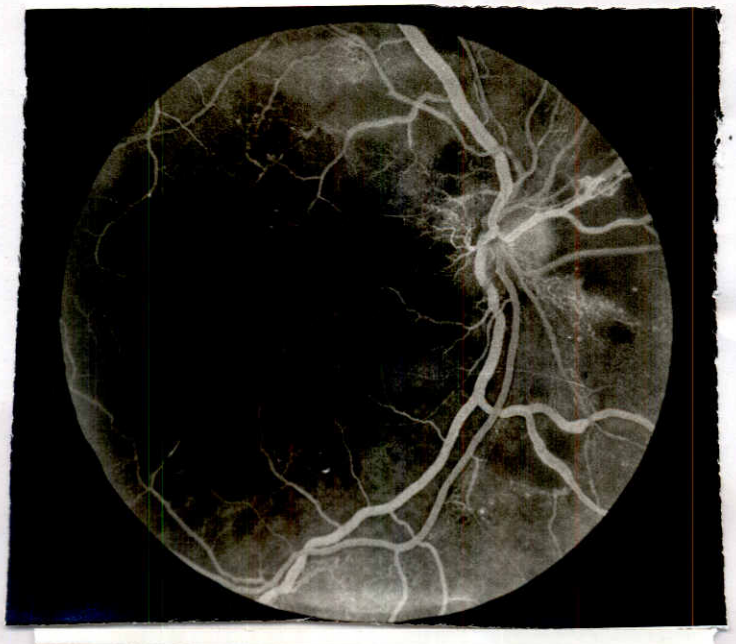
Late-phase angiogram showing staining of the walls of the inferotemporal arteriole and venule with dye leakage through their walls.

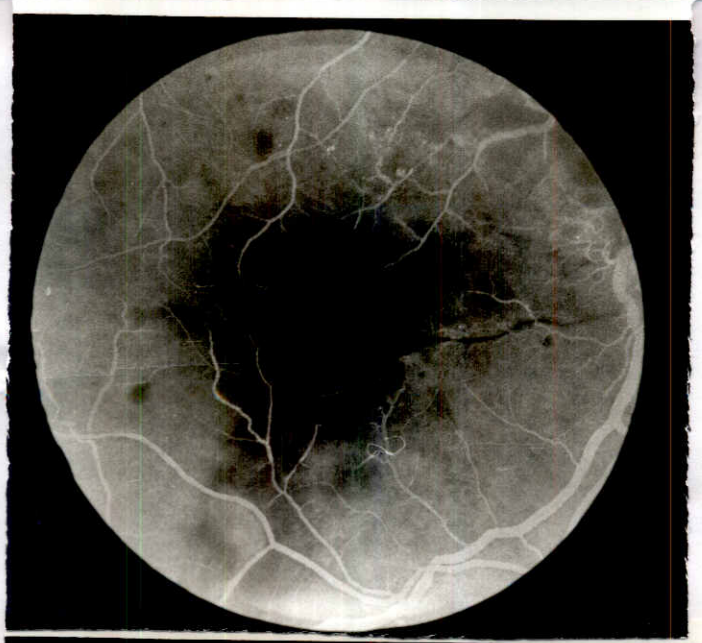
- Irregular caliber of the vessels.
- Occlusion of the macular branch of the infero-temporal arteriole.
- Disc-neovascularization (Fig.8).

Fundus fluorescein angiography of the left eye showed:

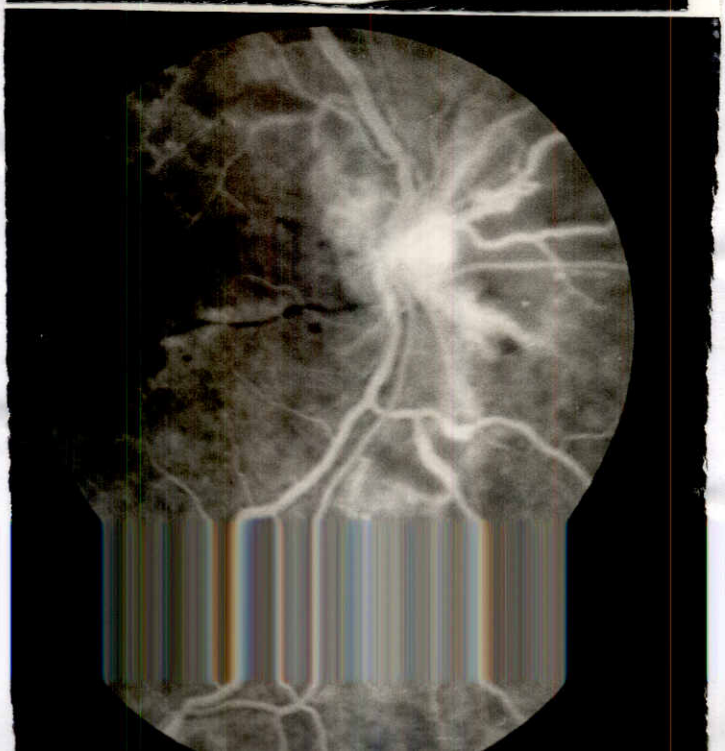
- Scattered areas of capillary non-perfusion, with enlargement of the foveal

PATIENT NO. 18
RIGHT EYE
(Fig. 8)



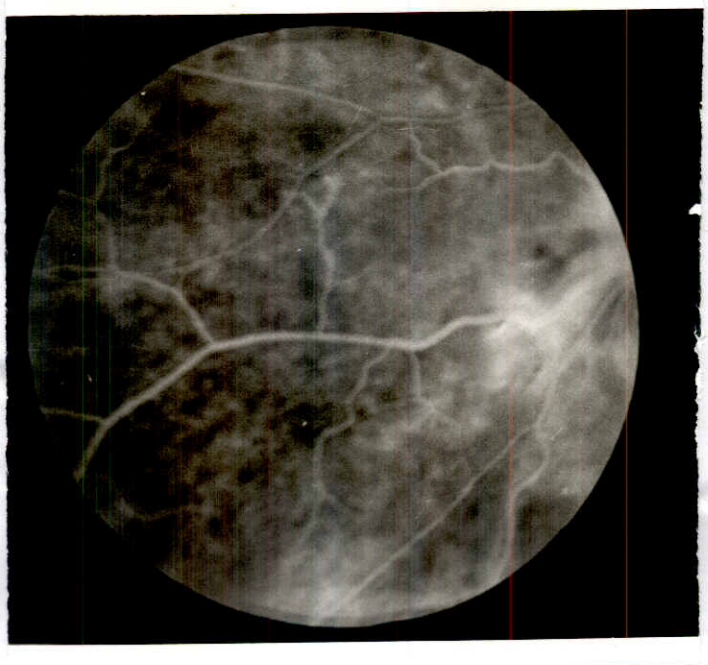


Late venous phase angiograms (30 and 33 seconds after fluorescein injection) showing:
-Nonfilling of the macular branch of the infero-temporal arteriole.
-Scattered capillary drop-out areas with widening of the foveal avascular zone.
-Irregular caliber of the blood vessels.

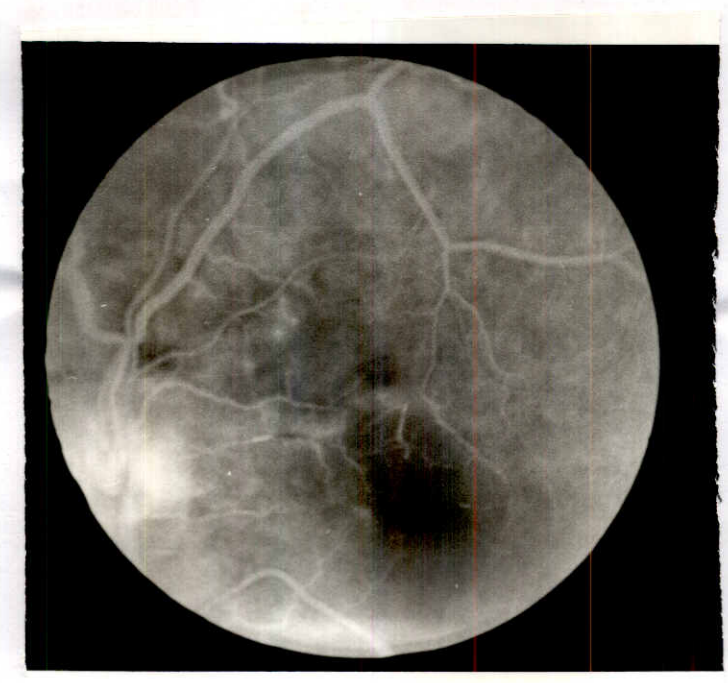


Late phase angiogram (100 seconds after injection). showing a hyperfluorescent leash of disc neovasularization.

PATIENT NO. 18
LEFT EYE
(Fig. 9)



Late phase angiogram (3 m. after injection) showing, focal dye leakage through the inferonasal venule, with scattered areas of capillary non-perfusion.



Late phase angiogram showing hyperfluorescence of the optic disc due to disc neovascularization.

Case. No. 19:

A 26-year-old woman presented with sudden painless visual loss in the left eye. The patient described the condition as "cloud over the vision of the left eye.

Ocular examination revealed a visual acuity of C.F. 30 cm OS & 6/9 OD with left afferent pupillary defect. Results of the slit lamp examination as well as intraocular pressure were normal.

Ophthalmoscopy revealed a swollen disc; the retina elsewhere was normal.

Visual field testing revealed a left inferior altitudinal scotoma (Fig.10). The condition was diagnosed as left anterior ischaemic optic neuropathy.

The patient was not diabetic or hypertensive she was referred to the physician because of concurrent pain in the joints. Further medical examination revealed the presence of polyarthritis, and Raynaud's phenomenon. Laboratory findings showed, elevated ANA titer, leukopenia, elevated anti ds DNA binding titer with low serum complement and elevated ESR. She was diagnosed as having SLE. LACC = 4.

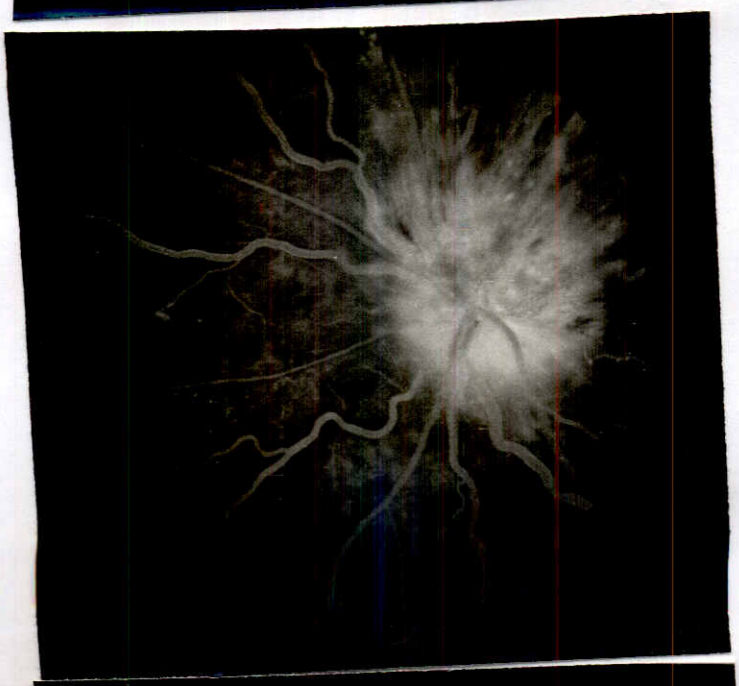
Fundus fluorescein angiography showed:

Late hyperfluorescence of the optic disc due to dye leaking from the disc vessels (Fig.11).

The patient received oral treatment in the form of 80 mg prednisolone, daily dose followed by gradual withdrawal. One month later, visual acuity

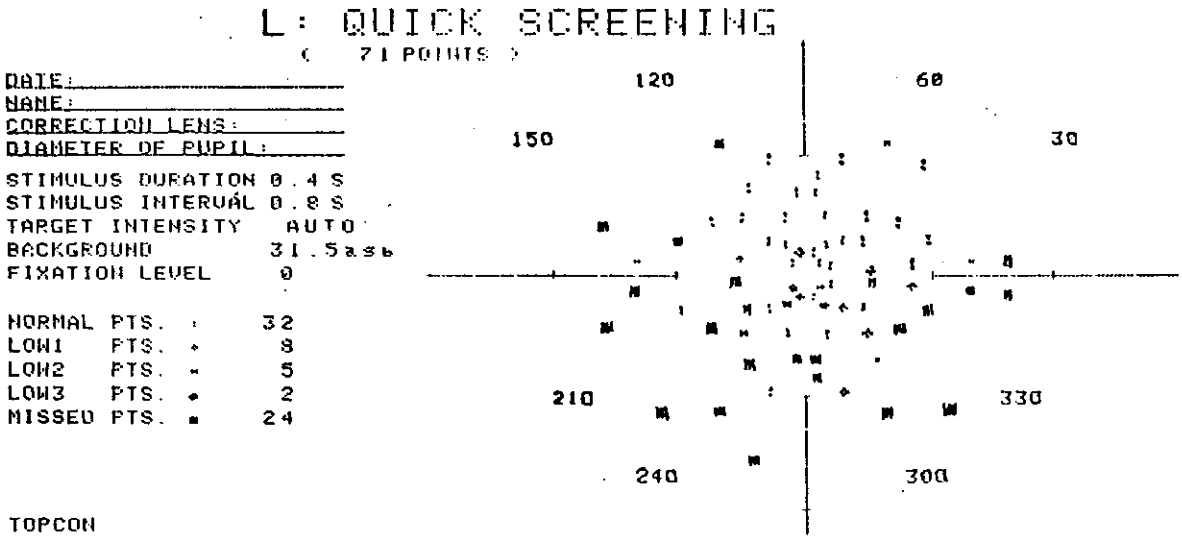
PATIENT NO. 19
LEFT EYE
(Fig. 11)

Mid-venous angiogram, (21 seconds after injection), showing irregular border of the optic disc and tortuous vessels.



Late arterio-venous phase angiogram, (46 seconds after injection), showing hyperfluorescent disc and peripapillary area due to dye leakage from the disc capillaries.

Late phase angioram, (4m. after injection), showing persistent disc hyperfluorescence despite fading out of retinal and choroidal fluorescence.



(Fig.10): Left Inferior Altitudinal Scotoma (Patient No. 19).

in the left eye improved to 6/36, with improvement of the general manifestations.

The prevalence of various systemic clinical and laboratory features in the patients with retinal affection was compared to that of all patients included in the study.

Clinical Features:

a-Malar rash:

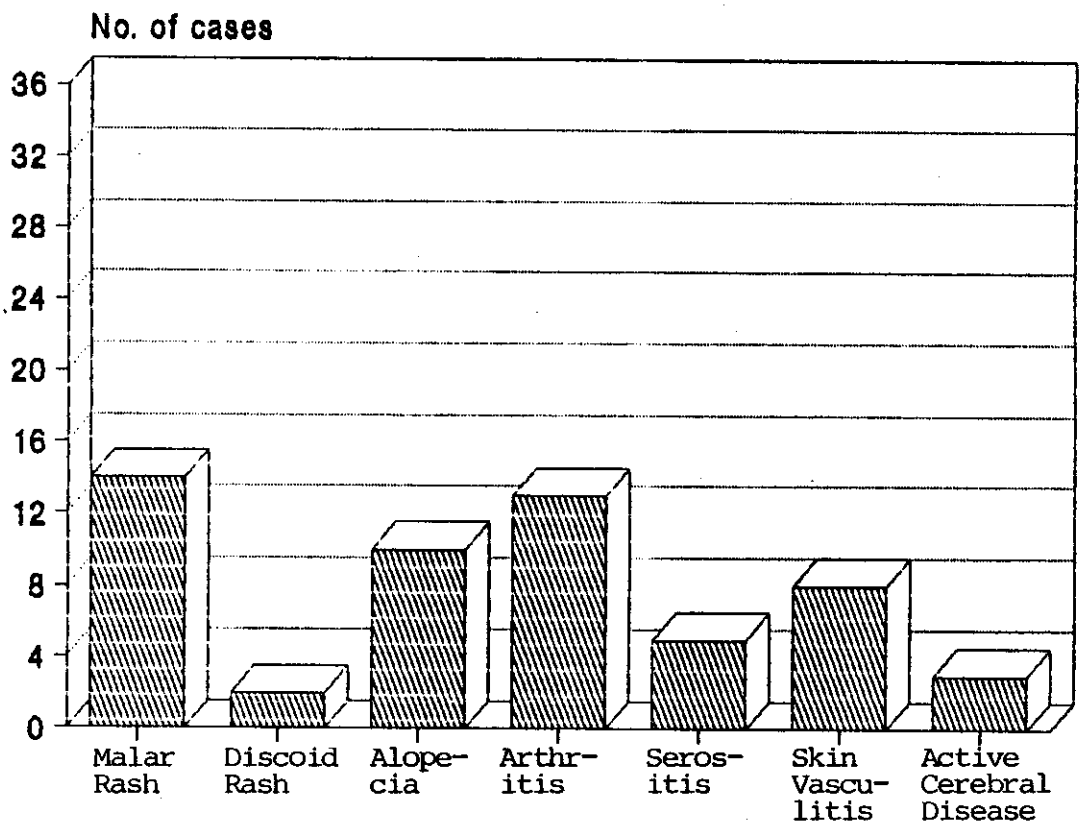
It was present in fourteen patients of the whole study (Fig.12), Two of them had retinal affection, (cases No. 16 & 17), (Table 8). This has no statistical significance (P.Value > 0.05), (Table 9):

(Table 9) THE RELATIONSHIP BETWEEN MALAR RASH AND THE RETINOPATHY.

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Malar Rash												
Present	0	0.00%	2	5.56%	0	0.00%	2	5.56%	12	33.33%	14	38.89%
Absent	1	2.78%	1	2.78%	1	2.78%	3	8.33%	19	52.78%	22	61.11%
Total	1	2.78%	3	8.34%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 2.2471
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

[Fig. 12] NO. OF CLINICAL FEATURES WITHIN THE WHOLE STUDIED SAMPLE.



b- Discoid rash:

It was present in only Two patients. None of them had retinal affection (Fig.12). This has no statistical significance (P-value > 0.05) (Table 10).

(Table 10) THE RELATIONSHIP BETWEEN DISCOID RASH AND THE RETINOPATHY.

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Discoid Rash												
Present	0	0.00%	0	0.00%	0	0.00%	0	0.00%	2	5.56%	2	5.56%
Absent	1	2.78%	3	8.33%	1	2.78%	5	13.89%	29	80.55%	34	94.44%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 0.341556
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

c- Alopecia: It was present in ten patients (Fig.12). Two of them had retinal affection (case No. 16 and case No. 17) (Table 8). This has no statistical significance, (P-value > 0.05) (Table 11).

(Table 11) THE RELATIONSHIP BETWEEN ALOPECIA AND THE RETINOPATHY.

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Alopecia												
Present	0	0.00%	2	5.55%	0	0.00%	2	5.55%	8	22.22%	10	27.78%
Absent	1	2.78%	1	2.78%	1	2.78%	3	8.34%	23	63.89%	26	72.22%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 3.0908
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

d- Arthritis:

It was present in thirteen patients of the whole study (Fig.12). Three of them had retinal affection (cases No. 16,18, and 19), (Table 8). This has no statistical significance, (P-value > 0.05), (Table 12).

(Table 12) **THE RELATIONSHIP BETWEEN ARTHRITIS AND THE RETINOPATHY.**

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Arthritis												
Present	1	2.78%	2	5.55%	0	0.00%	3	8.34%	10	27.78%	13	36.11%
Absent	0	0.00%	1	2.78%	1	2.78%	2	5.55%	21	58.33%	23	63.89%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 3.74798
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

e- Serositis:

It was present in five patients, none had retinal affection (Fig.12) (Table 13).

(Table 13) THE RELATIONSHIP BETWEEN SEROSITIS AND THE RETINOPATHY.

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Serositis												
Present	0	0.00%	0	0.00%	0	0.00%	0	0.00%	5	13.89%	5	13.89%
Absent	1	2.78%	3	8.33%	1	2.78%	5	13.89%	26	72.22%	31	86.11%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 0.936524
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

f- Skin vasculitis and Raynaud's phenomenon:

They were present in eight patients of the whole study. All of the 5 cases with retinal affection were affected. Three cases showed Raynaud's phenomenon, (cases No. 15, 17 and 19). The remaining two cases showed livedo reticularis (cases No. 16 and 18), (Table 8). These 2 patients had retinal vaso-occlusion, and this represents 66.66% of the patients with retinal vasoocclusion (Fig. 13).

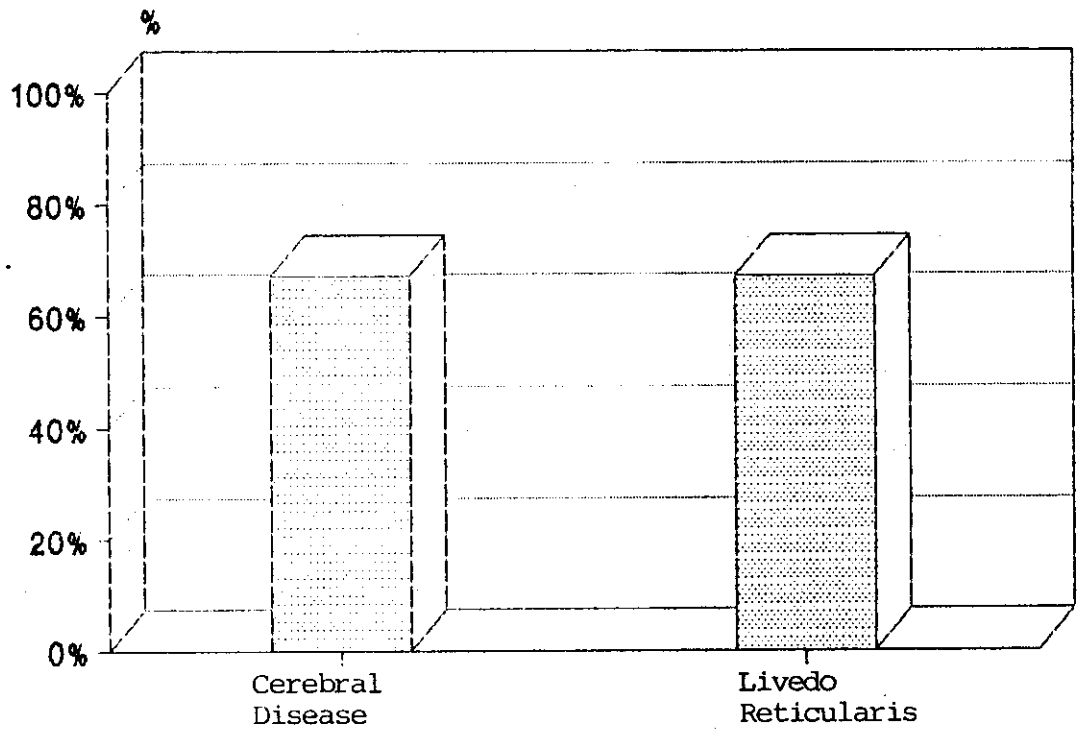
The result gives a high statistically significant correlation between skin vasculitis and Raynaud's phenomenon in one hand, and the retinal affection in the other P-value < 0.001 (Table 14).

(Table 14) **THE RELATIONSHIP BETWEEN VASCULITIS AND RAYNAUD'S PHEMONON AND THE RETINOPATHY.**

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Vasculitis & Raynaud's Phemonon												
Present	1	2.78%	3	8.33%	1	2.78%	5	13.89%	3	8.33%	8	22.22%
Absent	0	0.00%	0	0.00%	0	0.00%	0	0.00%	28	77.78%	28	77.78%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 20.3226
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE < 0.001 *

[Fig. 13] DISTRIBUTION OF LIVEDO RETICULARIS&CEREBRAL DISEASE IN THE THREE CASES OF VASO-OCCLUSIVE RETINOPATHY.



NO. OF VASO-OCCLUSIVE RETINOPATHY = 3

g- Active cerebral disease:

It was recorded in three patients of the whole study, (Fig.12); Two of them had retinal vasoocclusion, case No. 17 & case No. 18 (Table 8), (Fig. 13). This result is statistically highly significant, P-value < 0.05 (Table 15).

(Table 15) THE RELATIONSHIP BETWEEN CEREBRAL DISEASE AND THE RETINOPATHY.

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Cerebral Disease												
Present	0	0.00%	2	5.56%	0	0.00%	2	5.56%	1	2.78%	3	8.33%
Absent	1	2.78%	1	2.78%	1	2.78%	3	8.33%	30	83.33%	33	91.67%
Total	1	2.78%	3	8.34%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 14.6041
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE < 0.05 *

Laboratory Features:

a- Proteinuria:

It was present in nine patients. One of them had retinal affection (case No. 16). This has no statistical significance. P-value > 0.05 (Table 16).

(Table 16) THE RELATIONSHIP BETWEEN PROTEINURIA AND THE RETINOPATHY.

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Proteinuria												
Present	0	0.00%	1	2.78%	0	0.00%	1	2.78%	8	22.22%	9	25.00%
Absent	1	2.78%	2	5.55%	1	2.78%	4	11.11%	23	63.89%	27	75.00%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 0.8333
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

b- Leucopenia:

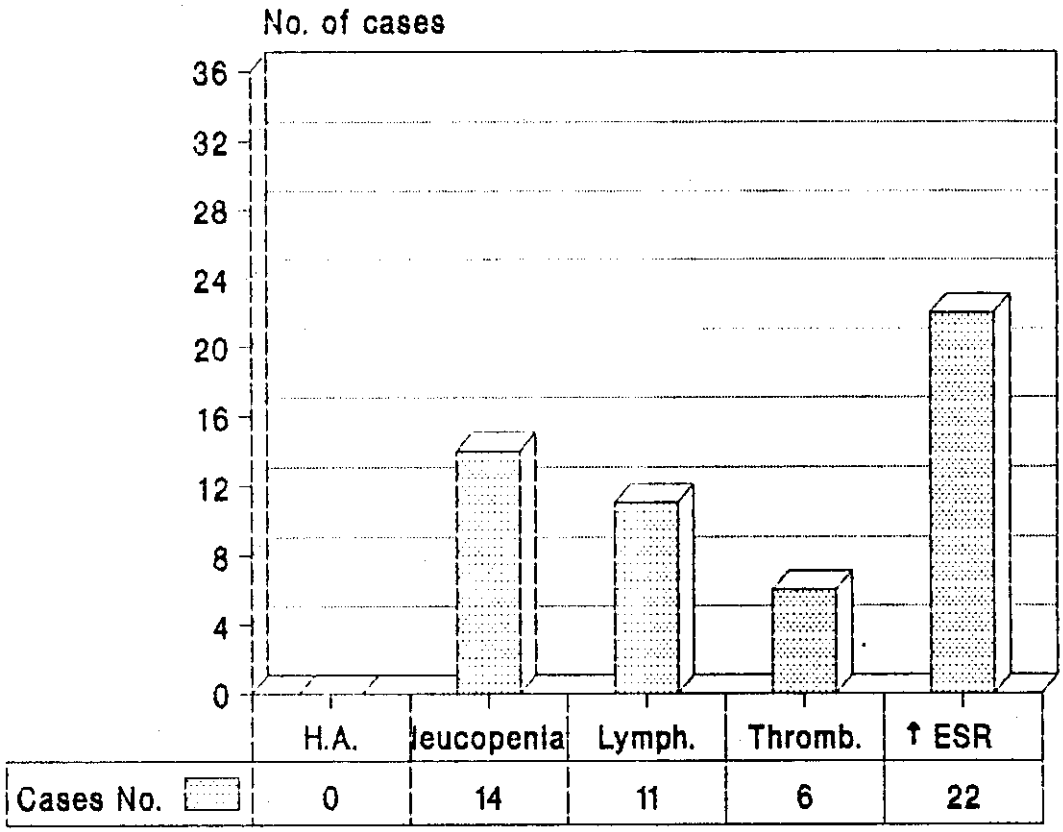
It was present in fourteen patients out of the whole study, (Fig. 14). One case with leucopenia had retinal affection (case No. 19) (Table 8). No statistical significance was found, P-value > 0.05 (Table 17).

(Table 17) THE RELATIONSHIP BETWEEN LEUCOPENIA AND THE RETINOPATHY.

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
leucopenia												
Present	1	2.78%	0	0.00%	0	0.00%	1	2.78%	13	36.11%	14	38.89%
Absent	0	0.00%	3	8.33%	1	2.78%	4	11.11%	18	50.00%	22	61.11%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 4.23796
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

[Fig. 14] NO. OF HEMATOLOGIC DISORDERS WITHIN THE WHOLE SAMPLE.



TOTAL SAMPLE = 36

H . A = Haemolytic Anaemic

Lymph. = Lymphopenia

Thromb. = Thrombocytopenia

↑ESR = Elevated Erythrocyte Sedimentation Rate

c- Thrombocytopenia:

It was present in six patients of the whole study (Fig. 14). Three of them had retinal affection in the form of vaso-occlusive retinopathy (cases No 16, 17, and 18), (Table 8). This denotes a highly significant correlation between thrombocytopenia and retinal affection, especially the vaso-occlusive type, P- vlaue < 0.001 (Table 18).

(Table 18) **THE RELATIONSHIP BETWEEN THROMBOCYTOPENIA AND THE RETINOPATHY.**

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Thrombocyto-penia												
Present	0	0.00%	3	8.33%	0	0.00%	3	8.33%	3	8.33%	6	16.67%
Absent	1	2.78%	0	0.00%	1	2.78%	2	5.56%	28	77.78%	30	83.33%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 16.4903
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE < 0.001 *

d- Antiphospholipid antibodies:

APLA were present in 4 patients of the whole study, (Fig.15). Three of them had retinal affection in the form of vaso- occlusive retinopathy (cases No 16, 17 and 18). (Table 8).

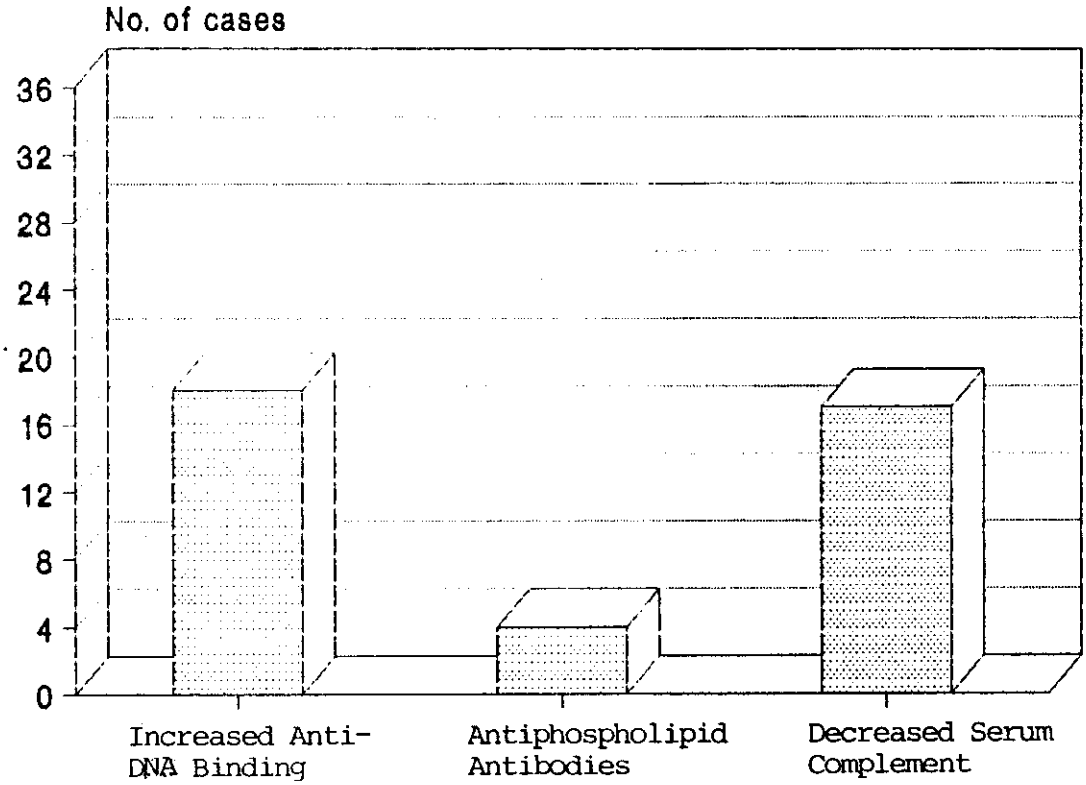
This denotes a highly significant correlation between the presence of antiphospholipid antibodies and retinal affection, especially the vaso-occlusive type, P-value < 0.001 (Table 19).

(Table 19) THE RELATIONSHIP BETWEEN LUPUS ANTICOAGULANT AND THE RETINOPATHY.

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Lupus Anti-Coagulant												
Present	0	0.00%	3	8.33%	0	0.00%	3	8.33%	1	2.78%	4	11.12%
Absent	1	2.78%	0	0.00%	1	2.78%	2	5.56%	30	83.33%	32	88.88%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 26.9529
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE < 0.001 *

[Fig. 15] NO. OF IMMUNOLOGIC DISORDERS WITHIN THE WHOLE SAMPLE.



TOTAL SAMPLE = 36

e- Elevated ESR:

Elevated ESR was present in twenty-two cases. The five cases with retinal affection had an elevated ESR. No statistical significance was found P-value > 0.05 (Table 20).

(Table 20) **THE RELATIONSHIP BETWEEN ESR AND THE RETINOPATHY.**

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
ESR												
Present	1	2.78%	3	8.33%	1	2.78%	5	13.89%	17	47.23%	22	61.11%
Absent	0	0.00%	0	0.00%	0	0.00%	0	0.00%	14	38.88%	14	38.89%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 5.29032
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

f- Increased anti DNA antibody binding:

It was present in 18 cases, four of them had retinal affection. No statistical significance was found, P-vlaue > 0.05 (Table 21).

(Table 21) **THE RELATIONSHIP BETWEEN ELEVATED ANTI-DNA TITRE AND THE RETINOPATHY.**

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Elevated Anti DNA titre												
Present	1	2.78%	3	8.33%	0	0.00%	4	11.11%	14	38.89%	18	50.00%
Absent	0	0.00%	0	0.00%	1	2.78%	1	2.78%	17	47.22%	18	50.00%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 5.29032
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

g- Low serum complement:

It was present in seventeen patients of the study, four of them had retinal affection. No statistical significance was found, P-value > 0.05 (Table 22).

(Table 22) **THE RELATIONSHIP BETWEEN LOW SERUM COMPLEMENT AND THE RETINOPATHY.**

	Disc-vasculitis		Retinal Vaso-occlusion		Micro-aneurysms		Total of Retinal affections		No Retinal affections		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Low Serum Complement												
Present	1	2.78%	3	8.33%	0	0.00%	4	11.11%	13	36.11%	17	47.22%
Absent	0	0.00%	0	0.00%	1	2.78%	1	2.78%	18	50.00%	19	52.78%
Total	1	2.78%	3	8.33%	1	2.78%	5	13.89%	31	86.11%	36	100.00%

CHI-SQUARE = 7.50319
D.F. = [(NO. OF COLUMN - 1) X (NO. OF RAWS - 1)] = 3
P-VALUE > 0.05

Elevated ESR, increased anti DNA binding, and low serum complement are considered reflection of disease activity (Table 7).

From the previous description, two clinical features and two laboratory findings were found to correlate with retinal affection in systemic lupus erythematosus (SLE), namely active CNS disease, skin vasculitis, the presence of antiphospholipid antibodies and thrombocytopenia (Fig. 16).

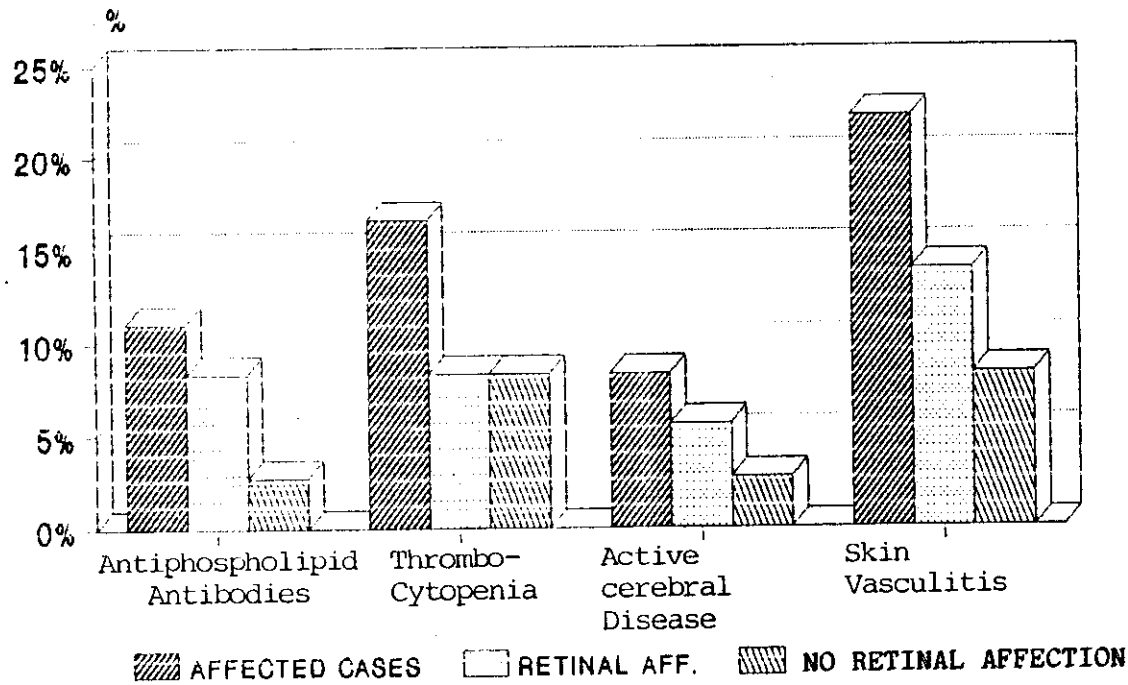
There was no correlation between the presence of retinal affection and the patient's age or disease duration.

Substantial drop of vision was recorded in two cases among the five cases with retinal affection, (cases No. 17 & 19). In the other three cases, defective vision was not a pateint complaint, despite extensive occlusive retinopathy in two of them (cases No 16 & 18).

Apart from SLE retinal affection there was one case (No. 7) with bilateral corticosteroid induced posterior cortical cataract. She was receiving a maintenance dose of 20 mg prednisone daily for three years.

Frank chloroquine maculopathy (Bull's eye maculopathy) was not detected among 16 patients of the whole study who were receiving hydroxychloroquine for different durations and in different doses.

[Fig. 16]% OF CLINICAL & LAB. RESULTS AMONG THE CASES WITH & WITHOUT RETINAL AFFECTIONS WITHIN THE WHOLE SAMPLE.



NO. OF RETINAL AFFECTIONS = 5
NO. OF NO RETINAL AFFECTIONS = 31
NO. OF THE WHOLE SAMPLE = 36