

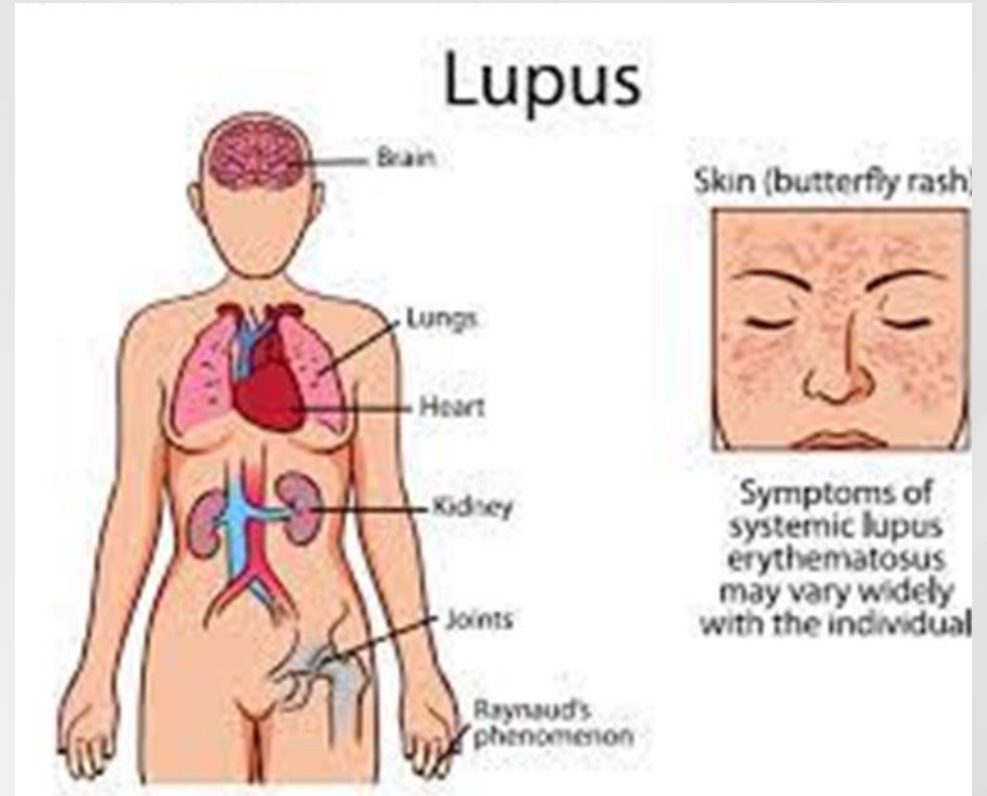
Ocular coherence tomography findings in systemic lupus patients with and without lupus nephritis

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2023

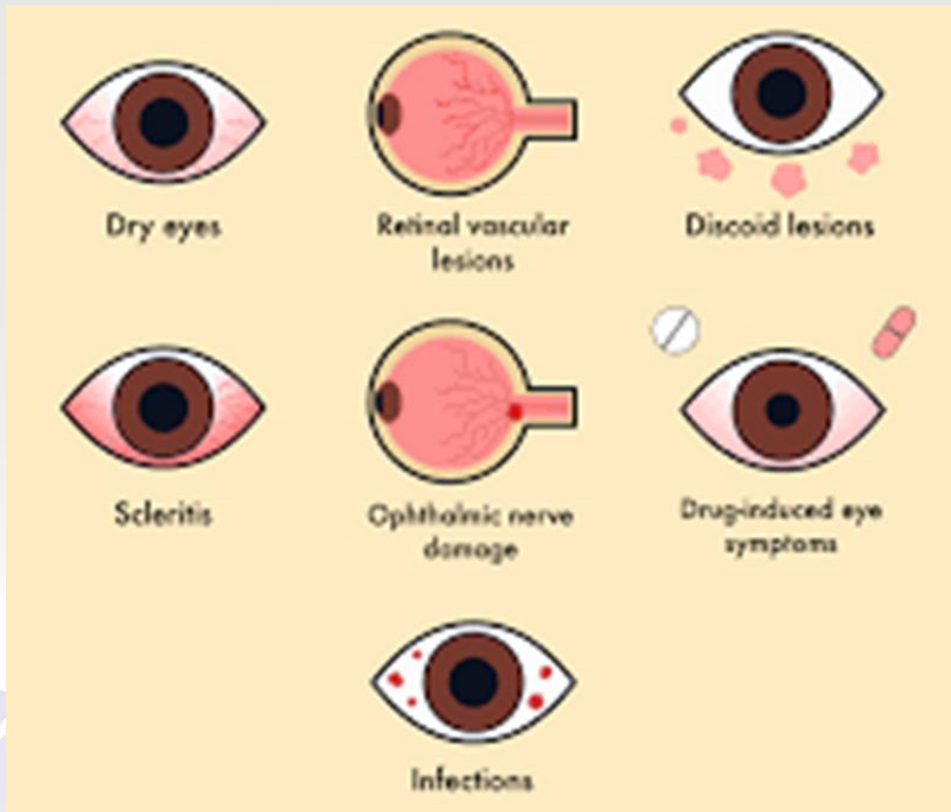


SLE Manifestations

- ▶ Variable
- ▶ Numerous
- ▶ Maybe subtle unrecognized



SLE Manifestations



Ocular changes correlate with disease activity and precede other systemic symptoms.

Retinopathy ranges from mild asymptomatic lupus retinopathy to severe blinding disease

SLE Manifestations

There are currently no widely accepted biomarkers for neuropsychiatric SLE.



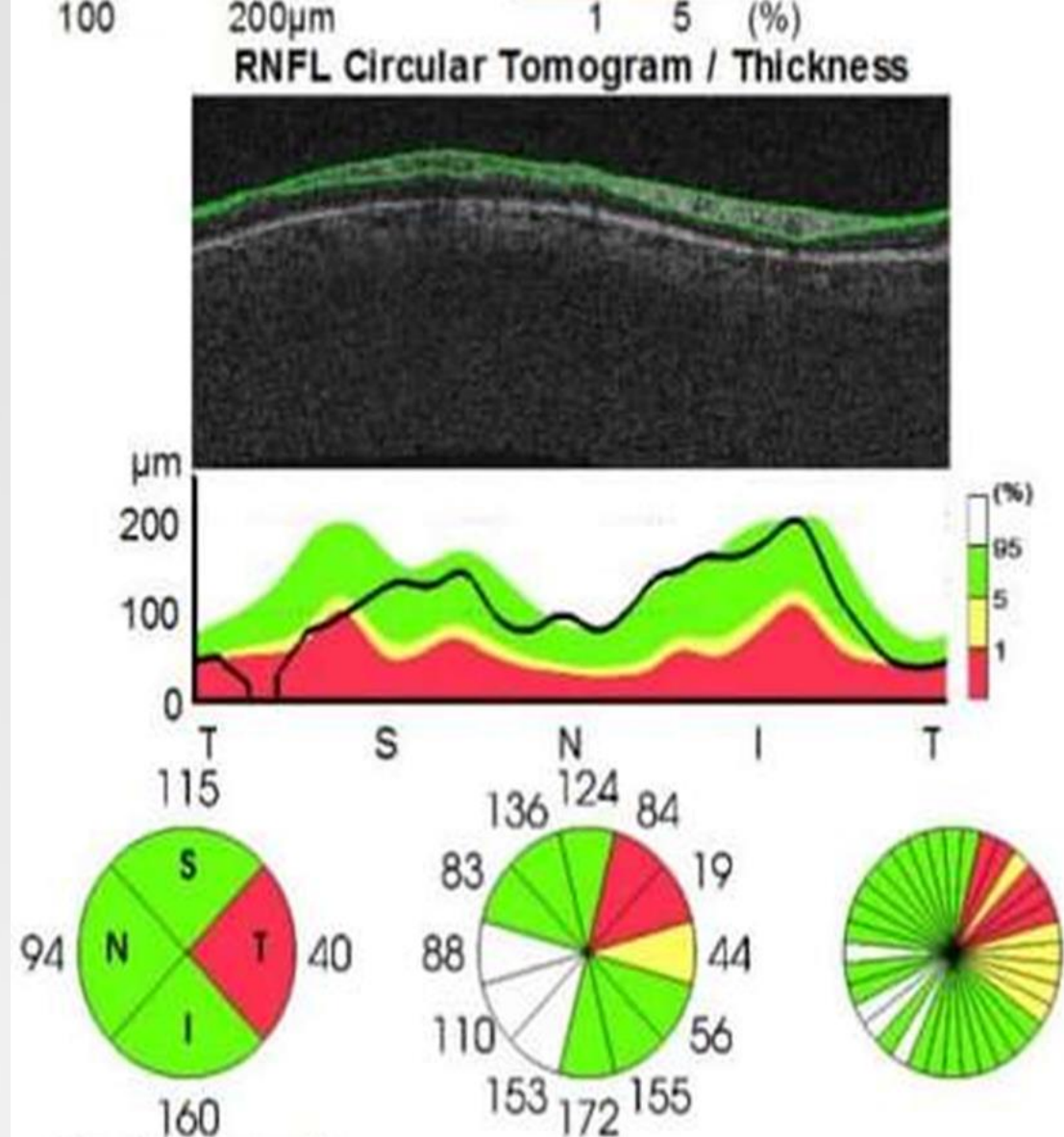
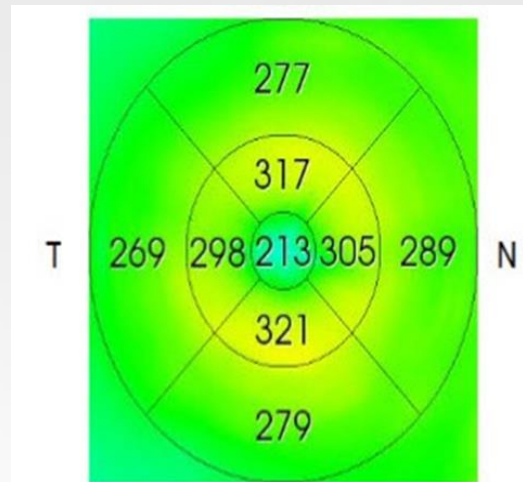
OCT

Non-invasive

Apparent in active disease

Qualitative

Quantitative



Aim of the study

This is an observational case series (30 patients). The aim of this study is to determine OCT findings for patients with and without lupus nephritis and correlation with other systems affection.



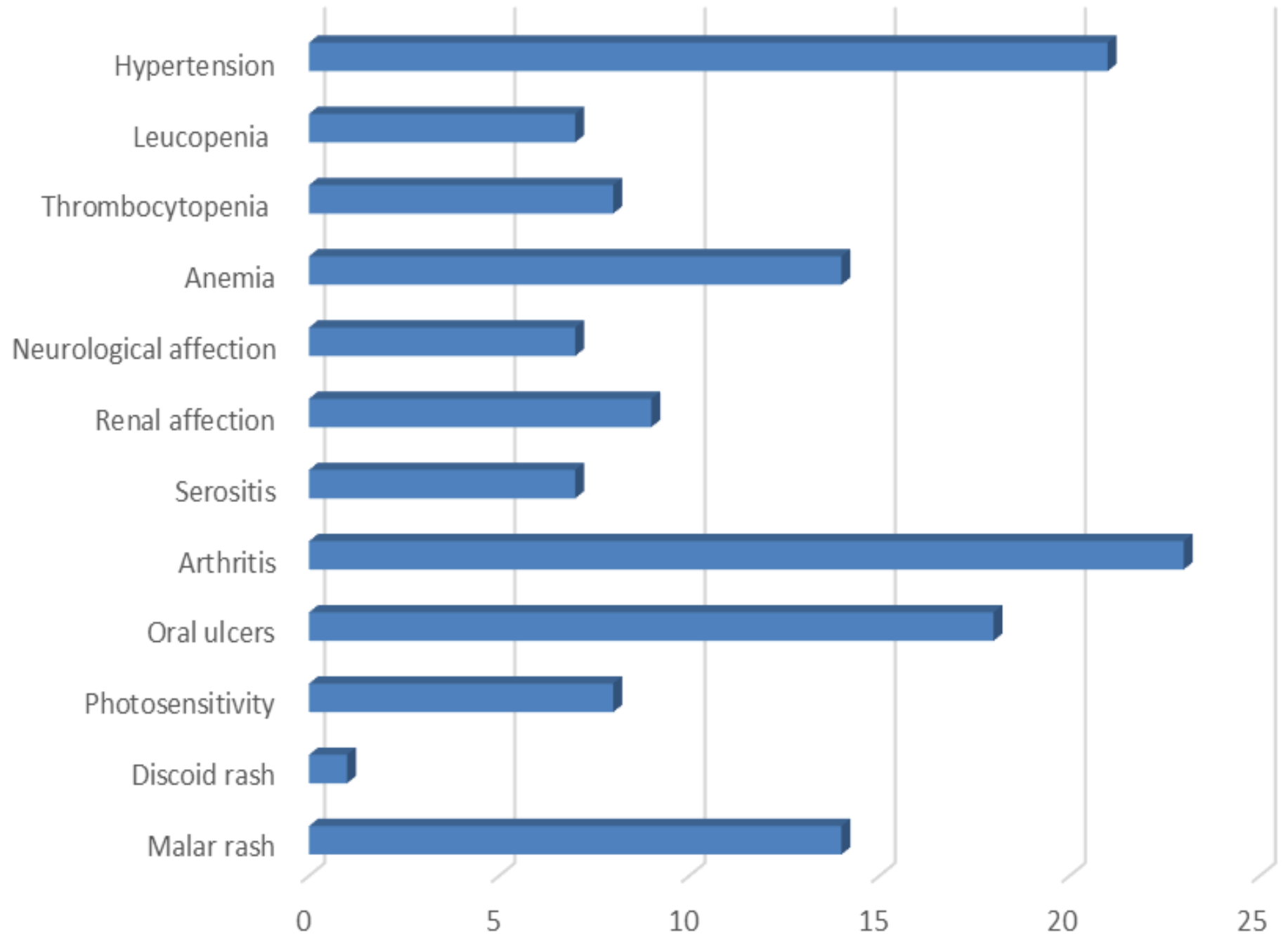
Patients

Items

Study subjects
n= 30

Age (years)	Mean \pm SD	33.97 \pm 11.51
	Median (min-max)	33 (18-56)
Sex		
Male		3 (10%)
Female		27 (90%)
Marital status		
Single		5 (16.7%)
Married		22 (73.3%)
Divorced		2 (6.7%)
Widowed		1 (3.3%)
Residence		
Urban		18 (60%)
Rural		12 (40%)
Family history		
No		25 (83.3%)
Yes		5 (16.7%)
Duration of SLE (years)	Mean \pm SD	4.06 \pm 2.61
	Median (min-max)	3.5 (1-9)
Duration of LN (Months)	Mean \pm SD	12.23 \pm 16.48
	Median (min-max)	3.5 (0 - 60)

Patients



Results

		Macular thickness	CSFT ⁵	Global RNFL \pm thickness	Inferior quadrant RNFL thickness	Superior quadrant RNFL thickness	Nasal quadrant RNFL thickness	Temporal quadrant RNFL thickness
AGE (years)	r	0.050	0.260	-0.231	-0.077	0.271	-0.083	-0.237
	p	0.792	0.166	0.220	0.687	0.147	0.662	0.208
duration of SLE (years)	r	-0.143	-0.050	-0.053	0.042	-0.277	0.278	0.100
	p	0.452	0.793	0.783	0.825	0.139	0.137	0.598
duration of lupus nephritis (months)	r	0.255	0.124	-0.145	0.215	0.332	-0.163	-0.213
	p	0.173	0.515	0.445	0.254	0.073	0.391	0.257
SBP (mmHg)	r	-0.302	0.266	-0.112	-0.250	-0.107	-0.252	-0.162
	p	0.105	0.156	0.555	0.184	0.574	0.180	0.391
DBP (mmHg)	r	-0.186	0.157	-0.250	-0.243	0.046	-0.330	-0.127
	p	0.325	0.406	0.183	0.196	0.808	0.075	0.504
Serum creatinine (mmHg)	r	.0517*	.316	-.243	-.426	-.008	-.326*	-.410*
	p	0.002	.089	.196	.03*	.965	.049	.035
eGFR (ml/min/1.73 m²)	r	-.0627	-.316	0.243	0.426	0.008	.326*	0.410*
	p	0.002	.089	.196	.03*	.965	.049	.035
Albumin / Creatinine ratio	r	-.430*	-.449*	-.364	-.533	-.478	-.493	-.510
	p	.020	.015	.052	.01*	.03*	.02*	.005**
24 hours protein in urine (gm)	r	-.324	.068	-.004	-.097	-.290	-.315	-.144
	p	.02*	.721	.982	.609	.121	.090	.448
Hemoglobin (gm/dl)	r	0.108	-0.240	-0.099	0.167	0.126	0.024	0.203
	p	0.570	0.202	0.603	0.378	0.509	0.900	0.282
WBCs (10³/ml)	r	0.023	0.185	0.006	-0.018	0.216	0.033	-0.100
	p	0.904	0.327	0.976	0.923	0.252	0.862	0.597
Platelets (10³/ml)	r	0.125	0.255	0.358	0.109	0.336	-0.188	-0.063
	p	0.510	0.174	0.052	0.567	0.070	0.321	0.739
SLEDAI score	p	.651	0.172	.155	-.180	.061	-.314	-.272
	r	.019*	.206	.09	.341	.748	.091	.146

Results

All patients with neurological symptoms had reduced nerve fiber layer thickness in at least 1 clock hour sector.

	SLE patients without neurological affection	SLE patients with neurological affection	Test of significance
Macular thickness (Mean ± SD)	256.51±26.41	273.35±14.39	t=2.21 p=0.036*
CSFT (Mean ± SD)	241.35±40.66	235.57±28.51	t=0.349 p=0.730
Global RNFL thickness (Mean ± SD)	112.52±18.76	101.57±7.37	t=0.3.21 p=0.02*
Inferior quadrant RNFL thickness (Mean ± SD)	145±5.2	136±8.9	t=0.320 p=0.06
Superior quadrant RNFL thickness (Mean ± SD)	110±6.1	92±2.9	t=0.620 p=0.04*
Nasal quadrant RNFL thickness (Mean ± SD)	102±3.1	73±11.3	t=0.854 p=0.06
Temporal quadrant RNFL thickness (Mean ± SD)	80±2.1	56±3.8	t=0.322 p=0.02*

Conclusion

- ↓ macular thickness reflects abnormal kidney function tests in SLE patients with LN.
- Peripapillary nerve fiber layer is thinned in at least one clock-hour in neuropsychiatric SLE patients.
- OCT measurements can be a potential biomarker in lupus nephritis and neuropsychiatric lupus patients.



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Thank you

