

RESULTS

Results of our study were tabulated as follow:

Table (4): Sensitivity and specificity of anti-C1q in APSGN and LN groups

	Sensitivity	Specificity
APSGN	53.6%	100.0%
LN	43.8%	100.0%

The sensitivity of anti C1q in APSGN cases was 53.6% and specificity was 100.0% while in LN cases the sensitivity was 43.8% and specificity was 100.0%.

Table (5) : Demographic data for APSGN, LN and control groups

		APSGN (n=28)	LN (n=16)	Control (n=20)
Demographic data	Age y, mean \pm SD	9.82 \pm 2.75	12.50 \pm 3.03	12.10 \pm 3.16
	Sex			
	- Male n, %	19 (67.9%)	5 (31.3%)	10 (50%)
	- Female n, %	9 (32.1%)	11 (68.8%)	10 (50%)
	Consanguinity			
	- Positive n, %	2 (7.14%)	0 (0%)	0 (0%)
	- Negative n, %	26 (92.86%)	16 (100%)	20 (100%)

As regarding age, the mean for APSGN was 9.82 years with SD 2.75 years, the mean for LN was 12.5 years with SD 3.03 years and the mean for control group was 12.10 years with SD 3.16 years

As regarding gender, males consisted 67.9% and females 32.1% of APSGN cases while in LN group, males consisted 31.3% and females consisted 68.8% and in control group, males formed 50% of cases and females 50% of cases

Regarding consanguinity, 2 cases (7.14%) of APSGN group were positive for consanguinity while all LN and control children were negative.

Table (6) : Clinical data for APSGN, LN and control groups

		APSGN (n=28)	LN (n=16)	Control (n=20)
Clinical data	Height cm, mean \pm SD	133.36 \pm 15.49	140.31 \pm 15.20	142.50 \pm 16.0
	BMI kg/m², mean \pmSD	15.73 \pm 1.46	20.14 \pm 5.04	17.43 \pm 4.02
	ABP n, %			
	- Normotensive	12 (42.9%)	10 (62.5%)	20 (100%)
	- Hypertensive	16 (57.1%)	6 (37.5%)	0 (0%)

As for height, the mean for APSGN cases was 133.36 cm with SD 15.49 cm, the mean for LN cases was 140.31 cm with SD 15.20 cm and the mean for control group was 142.5 cm with SD 16.0 cm

Regarding BMI, the mean for APSGN cases was 15.73 kg/m², the mean for LN cases was 20.14 and that for control group was 17.43 kg/m²

As regarding ABP, 42.9% of APSGN cases were normotensives and 57.1% were hypertensives while 62.5% of LN cases were normotensives and 37.5 of cases were hypertensives and all control children were normotensives.

Table (7) : Laboratory data for APSGN, LN and control groups

		APSGN (n=28)	LN (n=16)	Control (n=20)
Laboratory data	S.creatinine mg/dl, mean \pm SD	0.72 \pm 0.13	0.71 \pm 0.15	0.60 \pm 0.08
	GFR ml/min, mean \pm SD	95.93 \pm 18.34	103.27 \pm 23.10	100.32 \pm 19.08
	ESR1sthr mm/hr, median/range	6 (3 – 60)	-----	3.5 (1-5)
	ESR2ndhr mm/hr, median/range	9.5 (8 – 100)	-----	8 (5-9)
	ASO Iu/ml, median/range	400 (140-800)	-----	165 (150-190)
	-Normal n, median/range	8, 157.5 (140-190)	-----	20
	-Increased n, median/range	20, 600 (400-800)		0

As regarding S.creatinine, the mean for APSGN cases was 0.72 mg/dl with SD 0.13 mg/dl, the mean for LN cases was 0.71 mg/dl with SD 0.15 mg/dl and that for control group was 0.60 mg/dl with SD 0.08 mg/dl.

As for GFR, the mean for APSGN cases was 95.93 ml/min with SD 18.34 ml/min, the mean for LN cases was 103.27 ml/min with SD 23.10 ml/min and the mean for control children was 100.32 ml/min with SD 19.08 ml/min.

Regarding ESR 1st hr, the median for APSGN cases was 6 mm/hr and the range was from (3-60) and the the median for control children was 3.5 mm/hr and the range was from (1-5)

For ESR 2nd hr, the median for APSGN cases was 9.5 mm/hr and the range was from (8-100) and the median for control children was 8 mm/hr and the range was from (5-9).

As regarding ASO, 8 cases (28.57%) of APSGN group were normal with median 157.5 Iu/ml and range from (140-190) and 20 cases (71.43%) were increased with median 600 Iu/ml and range from (400-800), while all control children were normal.

Table (8) : Immunological investigations for APSGN, LN and control groups

		APSGN (n=28)	LN (n=16)	Control (n=20)
Immunological investigations	Anti C1q Iu/ml, median / range	75 (0 – 300)	13.5 (0 – 400)	7.5 (0-14)
	-Positive n, median/range	15, 100 (75-300)	7, 100 (75-400)	0
	-Negative n, median/range	13, 5 (0-14)	9, 9 (0-14)	20
	ANA mg/dl median/range	4 (1 – 9)	33.5 (5 – 91)	4 (1-8)
	- Positive n, median/range	0	14, 42.5 (20-91)	0
	- Negative n, median/range	28	2, 7 (5-9)	20
	Anti dsDNA Iu /ml, mean \pm SD	12.29 \pm 3.84	51.88 \pm 48.64	12.60 \pm 1.05
	- Positive n, mean \pm SD	0	6, 109 \pm 30.2	0
	- Negative n, mean \pm SD	28	10, 17.3 \pm 5.6	20
	C3 mg/dl, median/range	15 (10 - 27.3)	22.7(10.4 -412.3)	60 (25-200)
	- Normal n, median/range	0	5, 146.5 (28.4-412.3)	20
	- Decreased n, median/range	28	11, 19.2 (10.4-23.7)	0
	C4 mg/dl, median/range	25.9 (1.9 – 55)	6.9 (1.9 – 55)	36 (10-65)
	- Normal n, median/range	20, 30.5 (5.1-55)	8, 23.25 (9.5-55)	20
	- Decreased n, median/range	8, 3.5 (1.9-4.2)	8, 2.7 (1.9-4.3)	0

As regarding anti C1q Ab, 15 cases (53.57%) of APSGN group were positive, the median was 100 Iu/ml and the range from (75-300) and 13 cases (46.43%) were negative with median 5 Iu/ml and range from (0-14). 7 cases (43.75%) of LN group were positive with median 100 Iu/ml and range from (75-400) and 9 cases (56.25%) were negative with median 9 Iu/ml and range from (0-14) and all control children were negative

Regarding ANA, all APSGN cases were negative, the median was 4 mg/dl and the range from (1-9), while 14 cases (87.5%) of LN group were positive with median 42.5 mg/dl and range from (20-91) and two cases (12.5%) were negative with median 7 mg/dl and range from (5-9) while all control children were negative.

As for anti dsDNA, all APSGN cases were negative, the mean was 12.29 Iu/ml with SD 3.84 Iu/ml. 6 cases (37.5%) of LN group were positive, the mean was 109 Iu/ml with SD 30.2 Iu/ml and 10 cases (62.5%) were negative, the mean was 17.3 Iu/ml with SD 5.6 Iu/ml, while all control children were negative.

As regarding C3, all APSGN cases were decreased, the median was 15 mg/dl and the range from (10-27.3). 5 cases (31.25%) of LN group were normal, the median was 146.5 mg/dl and the range from (28.4 - 412.3) and 11 cases (68.75%) were decreased with median 19.2 and the range from (10.4 – 23.7), while all control children were normal.

Regarding C4, 20 cases (71.43%) of APSGN group were normal, the median was 30.5 mg/dl and the range from (5.1-55), while 8 cases (28.57%) were decreased, the median was 3.5 mg/dl and the range from (1.9-4.2). 8 cases (50%) of LN group were normal, the median was 23.25 mg/dl and the range from (9.5-55), while 8 cases (50%) were decreased with median 2.7 mg/dl and range from (1.9-4.3). All control children were normal.

Table (9): Analysis of clinical presentation of APSGN cases

		No	%
History of preceding streptococcal infection	Throat infection	21	75
	Impetigo	7	25
Mode of presentation of cases	Heamaturia	16	57.1
	Puffiness of the eye	7	25
	Oliguria	5	17.9

As regarding the history of preceding streptococcal infections, 75% of APSGN cases had throat infection, while 25% of cases had impetigo.

According to the mode of presentation of each case, heamaturia was the complaint in 57.1% of cases, puffiness of the eye in 25% of cases and oliguria was the complaint in 17.9% of cases.

Table (10) : Comparison between anti C 1q positive and anti C1q negative APSGN cases as regarding demographic and clinical data

	Anti C1q		P value
	Negative (n = 13)	Positive (n = 15)	
Age y, mean \pm SD	9.62 \pm 3.21	10.0 \pm 2.38	0.719
Sex: n,%			0.339
- Male	10 (76.9%)	9 (60%)	
- Female	3 (23.1%)	6 (40%)	
Consanguinity n,%			0.916
- Positive	1 (7.69%)	1(6.67%)	
- Negative	12 (92.31%)	14 (93.33%)	
Height cm, mean \pm SD	130.85 \pm 16.42	135.53 \pm 15.30	0.441
BMI kg/m ² mean \pm SD	15.70 \pm 10.20	15.76 \pm 1.65	0.920
Blood pressure: n,%			< 0.001
- Normotensive	12 (92.3%)	0 (0%)	
- Hypertensive	1 (7.7%)	15 (100%)	
Time interval between symptoms and diagnosis day, mean \pm SD	12 \pm 4.69	12.13 \pm 4.82	0.942

Among the 28 cases, 13 cases (46.43%) were negative for Anti C1q antibodies and 15 cases (53.57%) were positive for Anti C1q

There was no difference between anti C1q positive and anti C1q negative cases according to age as the mean age for the positive cases was 10 years with SD 2.38 years, while the mean age for the negative cases was 9.62 years with SD 3.21 years. (p= 0.719)

According to the gender, anti C1q positive group included 9 males (60%) and 6 females (40%) while anti C1q negative group included 10 males (76.9%) and 3 females (23.1%) with no significant difference (p=0.339).

Regarding consanguinity, one case (7.69%) of the negative group was positive for consanguinity and one case (6.67%) of the positive group was positive for consanguinity ($p=0.916$)

No difference between the two groups as regarding height as the mean height for the anti C1q positive group was 135.53 cm with SD 15.30 cm while the mean for the anti C1q negative group was 130.85 cm with SD 16.42 cm. ($p=0.441$)

As regarding BMI, the mean for the anti C1q positive group was 15.76 with SD 1.65, while the mean for the anti C1q negative group was 15.70 with SD 10.20, the difference between the two groups wasn't significant. ($p=0.920$)

According to arterial blood pressure, it was elevated in all anti C1q positive cases (100%), while it was normal in 12 cases of anti C1q negative group and it was elevated in one case only (7.7%) which was statistically a significant difference ($p < 0.001$)

The mean time interval between the appearance of symptoms and the diagnosis of cases as regarding anti C1q positive cases was 12.13 days while it was 12 days for anti C1q negative cases with no significant difference ($p=0.942$).

Table (11) : Comparison between anti C1q positive and anti C1q negative APSGN cases as regarding investigations

		Anti C1q		P value
		Negative (n = 13)	Positive (n = 15)	
S.creatinine mg/dl, mean \pm SD		0.62 \pm 0.08	0.80 \pm 0.10	< 0.001
GFR ml/min, mean \pm SD		107.8 \pm 17.37	85.65 \pm 12.07	0.001
ESR 1 st h mm/hr, median/range		5 (3 – 60)	8 (3 – 60)	0.607
ESR 2 nd h mm/hr, median/range		9 (8 – 100)	10 (8 – 90)	0.510
ASO Iu/ml, mean \pm SD		305.38 \pm 106.66	619.33 \pm 240.31	< 0.001
- Normal n, mean \pm SD		6, 185 \pm 12.25	2, 145 \pm 7.07	
- Increased n, mean \pm SD		7, 400 \pm 0	13, 692.3 \pm 155.25	
C3 mg/dl, median/range		20 (16 – 27.3)	13 (10 – 15)	< 0.001
C4 mg/dl, median/range		25.9 (1.9 – 55)	25.9 (2.7 – 55)	0.618
- Normal n, median/range		9, 31 (5.1-55)	11, 30 (5.1-55)	
- Decreased n, median/range		4, 3.1 (1.9-4.2)	4, 3.5 (2.7-3.9)	
ANA mg/dl, median/range		4 (2 – 9)	4 (1 – 8)	0.843
Anti dsDNA Iu/ml, mean \pm SD		12.23 \pm 3.66	12.33 \pm 4.12	0.945
Urine analysis	Proteinuria n, %			
	-Negative	10 (76.9%)	1 (6.7%)	<0.001
	-Positive	3 (23.1%)	14 (93.3%)	
	RBCs casts n, %			
	- Negative	0 (0%)	0 (0%)	--
	- Positive	13 (100%)	15 (100%)	
	RBCs n/ml, median/range	40 (10 - 100)	90 (15 - 100)	0.007
	Oliguria n, %			
	-Negative	9 (69.2%)	0 (0%)	<0.001
	- Positive	4 (30.8%)	15 (100%)	

S.creatinine levels were more elevated in anti C1q positive cases (mean=0.8 mg/dl) when compared to anti C1q negative cases (mean = 0.62 mg/dl) and the difference between the two groups was statistically significant (p< 0.001)

According to GFR, the mean for anti C1q positive group was 85.65 ml/min with SD 12.07 ml/min while the mean for anti C1q negative cases

was 107.8 ml/min with SD 17.37 ml/min and the difference between the two groups was significant ($p=0.001$)

No significant difference according to erythrocyte sedimentation rate (ESR) between anti C1q positive cases as the range was (3-60) mm/1h and (8-90) mm/2h while it was (3-60) mm/1h and (8-100) mm/2h as regarding anti C1q negative cases.

As regarding ASO levels, the anti C1q negative group included 7 increased cases (53.85%), the mean was 400 Iu/ml and it was a constant level and 6 normal cases (46.15%), the mean was 185 Iu/ml with SD 12.25 Iu/ml. The positive group included 13 increased cases (86.67%), the mean was 692.3 Iu/ml with SD 155.25 Iu/ml and 2 normal cases (13.33%), the mean was 145 Iu/ml with SD 7.07 Iu/ml. The difference between the two groups was statistically high significant ($p < 0.001$).

In the anti C1q positive group the range of complement C3 was (10 – 15) mg/dl and the median was 13 mg/dl compared to (16 – 27.3) mg/dl and 20 mg/dl in the anti C1q negative group. The difference between the two groups was highly significant ($p < 0.001$).

As regarding C4, the anti C1q negative group included 9 normal cases (69.23%), the median was 31 mg/dl and the range from (5.1-55) and 4 decreased cases (30.77%), the median was 3.1 mg/dl and the range from (1.9-4.2). The anti C1q positive group included 11 normal cases (73.33%), the median was 30 mg/dl and the range from (5.1-55) and 4 decreased cases (26.67%), the median was 3.5 mg/dl and the range from (2.7-3.9). The difference between the two groups was non significant ($p=0.618$).

All cases were negative for ANA, the median for the anti C1q positive group was 4 mg/dl and the range was (1-8) while it was 4 mg/dl and the range was (2-9) for the anti C1q negative group, no statistical difference between the two groups.($p=0.843$)

As regarding anti dsDNA, all cases were negative. The mean for the anti C1q positive group was 12.33 Iu/ml with SD 4.12 Iu/ml while the mean for the anti C1q negative group was 12.23 Iu/ml with SD 3.66 Iu/ml, no statistical difference between the two groups

Urine was positive for proteinuria in 14 cases (93.3%) of the anti C1q positive group while it was positive for proteinuria in 3 cases (23.1%) of anti C1q negative group which was highly significant difference ($p < 0.001$)

The presence of red blood cell casts was a constant finding in all cases

As regarding heamaturia, the median of the number of RBCs in urine in anti C1q positive group was 90 RBCs /ml, while it was 40 RBCs /ml in anti C1q negative group which was a significant difference ($p=0.007$)

All anti C1q positive cases were positive for oliguria while only 4 cases (30.8%) were positive for oliguria in anti C1q negative group which was a highly significant difference ($p < 0.001$).

Table (12) : Comparison between anti C1q positive and anti C1q negative LN cases as regarding demographic and clinical data

	Anti C1q		P value
	Negative (n = 9)	Positive (n = 7)	
Age y, mean \pm SD	13.56 \pm 1.86	11.14 \pm 3.82	0.162
Sex n,%			
- Male	3 (33.3%)	2 (28.6%)	0.838
- Female	6 (66.7%)	5 (71.4%)	
Blood pressure n,%			
- Normotensive	9 (100%)	1 (14.3%)	< 0.001
- Hypertensive	0 (0%)	6 (75.7%)	
Height cm, mean \pm SD	145.11 \pm 10.75	134.14 \pm 18.56	0.197
BMI kg/m ² , mean \pm SD	18.55 \pm 3.08	22.18 \pm 6.50	0.210

Seven cases (43.75%) of LN group were positive for anti C1q autoantibodies, while 9 cases (56.25%) were negative.

As regarding age no difference between the two groups, as the mean of age for anti C1q positive group was 11.14 years with SD 3.82 years, while it was 13.56 years with SD 1.86 years for anti C1q negative group ($p = 0.162$).

According to gender, males consisted 28.6% and females consisted 71.4% of anti C1q positive cases, while males consisted 33.3% and females consisted 66.7% of anti C1q negative group with no significant difference between the two groups ($p = 0.838$).

There was a significant difference between the two groups according to ABP as the anti C1q positive group included 1 normotensive and 6 hypertensive cases, while all cases of the anti C1q negative group were normotensive. ($p < 0.001$).

No difference between the two groups according to height as the mean height for the positive group was 134.14 cm with SD 18.56 cm and the mean height for the negative group was 145.11 cm with SD 10.75 cm ($p=0.197$).

As regarding BMI, the mean for the positive group was 22.18 kg/m² with SD 6.50 kg/m² while that of the negative group was 18.55 kg/m² with SD 3.08 kg/m², no significant difference between the two groups. ($p=0.210$).

Table (13) : Comparison between anti C1q positive and anti C1q negative LN cases as regarding investigations

		Anti C1q		P value
		Negative (n = 9)	Positive (n = 7)	
S.creatinine mg/dl, median/range		0.60 (0.6 – 0.7)	0.8 (0.7 – 1.1)	0.001
GFR ml/min, mean ± SD		119.13 ± 11.85	82.87 ± 16.84	< 0.001
C3 mg/dl, median/range		28.4 (10.4 – 412.3)	17 (10.4 – 23.7)	0.080
- Normal n, median/range		5, 146.5 (28.4-412.3)	0 (0%)	
- Decreased n, median/range		4, 19.2 (10.4-23.7)	7 (100%)	
C4 mg/dl, median/range		15.5 (1.9 – 55)	2.7 (1.9 – 4.3)	0.008
- Normal n, median/range		8, 23.25 (9.5-55)	0	
- Decreased n, median/range		1, 1.9	7	
ANA mg/dl, median/range		32 (5 – 90)	60 (25 – 91)	0.111
- Negative n, median/range		2, 7 (5-9)	0	
- Positive n, median/range		7, 32 (20-90)	7	
ANA Pattern				0.580
- Homogenous n, %		6 (85.7%)	5 (71.4%)	
- Speckled n, %		1 (14.3%)	1 (14.3%)	
- Peripheral rim n, %		0 (0%)	1 (14.3%)	
Anti dsDNA Iu/ml, mean ± SD		17.78 ± 4.47	95.71 ± 43.61	0.003
- Negative n, mean ± SD		9	1, 13	
- Positive n, mean ± SD		0	6, 109.5 ± 26.18	
Urine analysis	Haematuria			0.003
	-Negative n, %	8 (88.89%)	1 (14.29%)	
	-Positive n, %	1 (11.11%)	6 (85.71%)	
	Proteinuria			0.002
	-Negative n, %	9 (100%)	2 (28.57%)	
	-Positive n, %	0 (0%)	5 (71.43%)	
Renal biopsy	WHO classification			0.010
	I	4 (44.4%)	0 (0%)	
	II	4 (44.4%)	0 (0%)	
	IIIa	1 (11.1%)	2 (28.6%)	
	IIIb	0 (0%)	4 (57.1%)	
	IVg	0 (0%)	1 (14.3%)	
	Activity index median/range	2 (0 – 4)	10 (8 – 12)	< 0.001
	Chronisity index median/range	2 (1 – 3)	3 (1 – 4)	0.049

As regarding S.creatinine, the median for the positive group was 0.8 mg/dl and the range was (0.7 – 1.1), while the median for the negative

group was 0.6 mg/dl and the range was (0.6 – 0.7)mg/dl and the difference was statistically significant ($p=0.001$).

According to GFR, the mean for the positive group was 82.87 ml/min and the SD was 16.84 ml/min, while the mean for the negative group was 119.13 ml/min and the SD was 11.85 ml/min, the difference between the two groups was highly significant ($p< 0.001$).

As for the complement C3, all anti C1q positive cases had decreased C3, the median was 17 mg/dl and the range was (10.4 – 23.7) mg/dl, while the anti C1q negative group included 5 normal cases (55.56%), the median was 146.5 mg/dl and the range from (28.4-412.3) and 4 decreased cases (44.44%), the median was 19.2 mg/dl and the range from (10.4-23.7). No statistical difference between the two groups ($p=0.080$).

Regarding the complement C4, all anti C1q positive cases had decreased C4, the median was 2.7 mg/dl and the range was from (1.9 – 4.3) mg/dl. The anti C1q negative group included 8 normal cases (88.89%), the median was 23.25 mg/dl and the range from (9.5-55) and one decreased case (11.11%), its level was 1.9 mg/dl. The difference between the two groups was statistically significant ($p=0.008$).

According to ANA , all anti C1q positive cases were positive for ANA, the median was 60 mg/dl and the range was from (25 – 91), while the anti C1q negative group included 7 positive cases for ANA (77.8%), the median was 32 mg/dl and the range was from (20-90), and 2 ANA negative cases (22.2%), the median was 7 mg/dl and the range was (5 – 9), no statistical difference between the two groups ($p=0.111$).

As regarding the pattern of ANA, 5 cases (71.4%) showed homogenous pattern, one case (14.3%) showed speckled pattern and one case (14.3%) showed peripheral rim pattern of ANA positive cases of the anti C1q positive group, while 6 cases (85.7%) showed homogenous pattern and one case (14.3%) showed speckled pattern of ANA positive cases of the anti C1q negative group, no difference between the two groups. ($p=0.580$).

As for anti dsDNA, the anti C1q positive group included one negative case (14.29%), its value was 13 Iu/ml and 6 positive cases (85.71%), the mean was 109.5 Iu/ml with SD 26.18. All anti C1q negative cases were negative for anti dsDNA, the mean was 17.78 IU/ml and the SD was 4.47 IU/ml, the difference between the two groups was statistically significant ($p=0.003$).

According to hematuria, the anti C1q positive group included 6 cases (85.71%) positive and one case (14.29%) negative for hematuria, while the anti C1q negative group included one case (11.11%) positive and 8 cases (88.89%) negative for hematuria, the difference between the two groups was statistically significant ($p=0.003$).

As for proteinuria, the anti C1q positive group included 5 cases (71.43%) positive and 2 cases (28.57%) negative for proteinuria, while all cases of the anti C1q negative group were negative for proteinuria, the difference between the two groups was statistically significant ($p=0.002$).

As regarding renal biopsy and WHO classification, the anti C1q positive group included 2 cases (28.6%) classified as grade IIIa, 4 cases (57.1%) grade IIIb And one case (14.3%) grade IVg while the anti C1q

negative group included 4 cases (44.4%) grade I, 4 cases (44.4%) grade II and one case (11.1%) grade IIIa, the difference between the two groups was significant ($p=0.01$).

According to activity index, the median for the anti C1q positive group was 10 and the range was (8-12), while the median for the anti C1q negative group was 2 and the range was (0 - 4), the difference between the two groups was statistically high significant. ($p< 0.001$).

As regarding chronicity index, the median for the anti C1q positive group was 3 and the range was (1-4), while the median for the anti C1q negative group was 2 and the range was (1-3), the difference between the two groups was significant ($p=0.0490$).

Table (14) : Comparison between anti C1q positive and anti C1q negative LN cases as regarding the activity of the disease

	Anti C1q		P value
	Negative (n = 9)	Positive (n = 7)	
Activity of the disease			
- Inactive n, %	8 (88.9%)	0 (0%)	< 0.001
- Active n, %	1 (11.1%)	7 (100%)	

As regarding the activity of the disease, all anti C1q positive cases had active LN according to renal biopsy and urine analysis, while only one case (11.1%) of the anti C1q negative group had active disease, the difference between the two groups was statistically high significant ($p = < 0.001$).



Figure (4) : C3 and C4 radial immunodiffusion plates

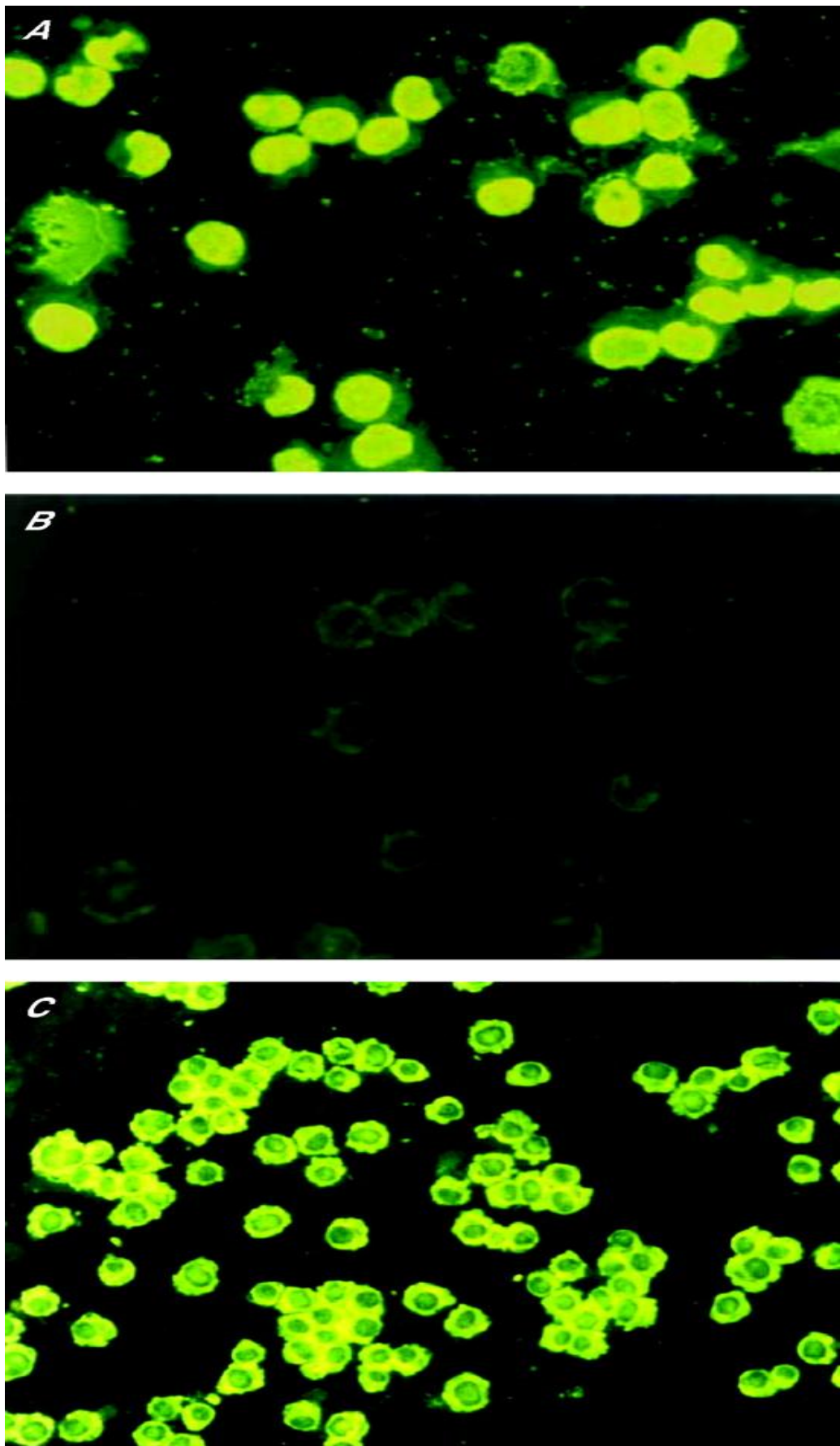


Figure (5): Patterns of ANA. A: Homogenous. B: Peripheral rim. C: Speckled.