SUMMARY AND CONCLUSION

APSGN is the most common and most studied post-infectious renal disease in human and frequently associated with autoimmune phenomena

Anti-C1q has a common secondary pathogenic role in SLE and APSGN. Both SLE nephritis, as well as APSGN, share several histopathological characteristics, such as glomerular sub endothelial deposition of IgG-containing immune complexes and deposition of complement components of the classical pathway.

The aim of this study is to evaluate the effects of the presence of the anti C1q antibodies on the severity and the prognosis of the disease in both APSGN and LN.

Our investigations were performed in Microbiology and Immunology Departement of Benha Faculty of Medicine

This study included three groups:

Group (A):

This group included 28 cases (19 males and 9 females) suffering from APSGN. This group fulfill the following inclusion criteria:

1- History of preceding streptococcal infection.
2- Clinical criteria as: odema, hypertension and oliguria
3- RBCs casts and heamaturia in urine analysis.
4- Elevated S.creatinine
5- Newly diagnosed cases to avoid the effect of treatment on our results.

Group (B):

This group included 16 cases (5 males and 11 females) suffering from LN. This group fulfill the following inclusion criteria:

1- Biopsy proven LN. Each case was classified according to WHO classification from I to VI, active and chronic indices were included.
2- Newly diagnosed cases to avoid the effect of treatment on our results.
3- Urine analysis including heamaturia and proteinuria.
4- Elevated S.creatinine.
5- Clinical criteria as hypertension, odema and oliguria

Group (C):

Control group included 20 children (10 males and 10 females) they were selected from healthy children. They had normal renal functions with no family history of renal diseases.

The following steps were done for each children:

1- Complete history taking
2- Clinical examination
3- Routine investigations (CBC, urine analysis, urea, serum creatinine and ASO)
4- Anti C1q autoantibodies
5- Complement C3 and C4
6- ANA
7- Anti dsDNA

As regarding APSGN cases the results showed the following:

- The mean age was 9.82 years
- Males consisted 67.9% of cases and females 32.1%
- Two cases (7.14%) were positive for consanguinity.
- ABP was elevated in 16 cases (57.1%) and it was normal in 12 cases (42.9%)
- The mean S.creatinine was 0.72 mg/dl.
- The mean GFR was 95.93 ml/min
- ESR was elevated in 12 cases (42.86%)
- ASO was elevated in 20 cases (71.43%), and it was normal in 8 cases (28.57%)
- Anti C1q Ab appeared in 15 cases (53.57%), and 13 cases (46.43%) were negative
- All cases were negative for ANA and anti dsDNA
- Complement C3 was decreased in all cases
- Complement C4 was decreased in 8 cases (28.57%), while it was normal in 20 cases (71.43%), the median was 25.9 mg/dl and the range was (1.9-55) mg/dl.

Comparing anti C1q positive with anti C1q negative APSGN cases we found the following:

- There was no difference between the two groups as regarding age, height and BMI
- ABP was more elevated in the positive group more than the negative group as it was elevated in all positive cases , while it was elevated in one case only of the negative group ($p =< 0.001$)
- S.creatinin was more elevated in the positive group as the mean was 0.80 mg/dl while it was 0.62 mg/dl in the negative group ($p = < 0.001$)

- GFR was more affected in the positive group as the mean was 85.65 ml/min while the mean was 107.8 ml/min in the negative group (p=0.001).
- ASO was more elevated in the positive group as the mean was 619.33 Iu/ml while the mean for the negative group was 305.38 Iu/ml (p=< 0.001).
- C3 level showed more decline in the positive group as the median was 13 mg/dl and the range was (10-15) while the median was 20 mg/dl and the range was (16-27.3) for the negative group. (p=< 0.001).
- There was no difference between the two groups as regarding C4, ANA and anti dsDNA.
- The positive group showed more proteinuria, hematuria and more occurrence of oliguria.

As regarding LN cases, our results showed the following:

- The mean age was 12.5 years
- Males consisted 31.3% of cases and females 68.8% of cases
- ABP was elevated in 6 cases (37.5%) and it was normal in 10 cases (62.5%)
- The mean S.creatinine was 0.71 mg/dl
- The mean GFR was 103.27 ml/min
- 7 cases (43.75%) were positive for anti C1q Ab, while 9 cases (56.25%) were negative
- 14 cases (87.5%) were positive for ANA and two cases (12.5%) were negative
- Anti dsDNA was elevated in 6 cases (37.5%) and normal in 10 cases (62.5%)
- C3, it was decreased in 11 cases (68.75%), while it was normal in 5 cases (31.25%)

- C4 was normal in 8 cases (50%), and decreased in 8 cases (50%)

Comparing anti C1q positive with anti C1q negative LN cases we found the following:

- There was no difference between the two groups as regarding age, BMI and height
- ABP showed more elevation in the positive group as it was elevated in 75.7% of cases, while it was normal in all negative cases (p=< 0.001)
- S.creatinine was more elevated in the positive group as the median was 0.8 mg/dl and the range was (0.7 – 1.1) mg/dl, while the median was 0.60 mg/dl and the range was (0.6 - 0.7) mg/dl for the negative group (p=< 0.001)
- The mean GFR for the positive group was 82.87 ml/min, while it was 119.13 ml/min for the negative group (p=< 0.001)
- There was no difference between the two groups as regarding C3
- The median of C4 level was 2.7 mg/dl and the range was from (1.9–4.3) mg/dl as regarding the positive group, while for the negative group the median was 15.5 mg/dl and the range was from (1.9 – 55) mg/dl (p=0.008)
- There was no difference between the two groups as regarding ANA
- Anti dsDNA showed more elevation in the positive group as the mean was 95.71 Iu/ml, while the mean for the negative group was 17.78 Iu/ml (p=0.003)
- Heamaturia and proteinuria showed more incidence in the positive group than the negative group
- Renal biopsy showed that the kidneys of the positive group were more affected and the activity and chronicity indices were more elevated.

Our conclusion as obtained from our results was that Anti C1q Ab is a useful biomarker for the diagnosis of APSGN and LN and its presence can detect the severity of the renal affection and the prognosis of the disease.