Summary and Conclusion

Systemic lupus erythematosus (SLE) is an autoimmune disorder in which the body's immune system incorrectly attacks the body's own tissues and organs, leading to inflammation and damage **(Ringold, 2006)**.

Lupus nephritis, one of the most serious manifestations of systemic lupus erythematosus (SLE), usually arises within 5 years of diagnosis; however, renal failure rarely occurs before American College of Rheumatology classification criteria are met **(D'Agati VD and Appel GB, 2007)**.

Anti-C1q autoantibodies have been suggested to be closely associated with LN **(Seelen MA et al., 2003)**. This association is concluded from the correlation between anti-C1q autoantibody positivity and renal involvement **(Horvath L, 2001),** the predictive value of anti-C1q autoantibody titers for flares of nephritis **(Moroni G, 2001)** and the accumulation of anti-C1q autoantibodies in LN kidneys (**Mannik M et al., 2003)**.

Conversely, in the absence of anti-C1q autoantibodies, no LN develops **(Fremeaux-Bacchi V et al., 2002).** Anti-Clq antibodies were

found to have very high sensitivity and negative predictive value for the occurrence of renal disease **(Marto N et al., 2005).**

The aim of this work is to measure the levels of anti-C1q antibodies in sera of patients with SLE, with and without renal involvement, and correlate these levels with the activity of the disease and nephropathy.

This study was carried out on Thirty patients with SLE (Group I) diagnosed according to the 1982 revised criteria of the American College of Rheumatology (ACR) for the diagnosis of SLE **(Tan et al., 1982)** . They were selected from the outpatient clinic and inpatient of Rheumatology and Rehabilitation Department of Benha university hospitals.In addition to Twenty apparently healthy individuals (Group II) with matched age and sex were chosen as a control group.

All patients were subjected to full history taking, complete clinical examination, laboratory and radiological investigation. The level of serum anti-C1q in SLE patients and control were determined by ELISA technique.The activity of SLE disease was measured according to SLEDAI and the activity of renal disease was measured according to BILAG index and Determination of activity and chronicity scores of kidney biopsy were done according to the NIH Activity (AC) and Chronicity Indices (CR) of lupus nephritis.

The mean value of serum anti-C1q antibodies was significantly higher in sera of SLE patients, mean (73.4±83.9)U\ml compared with the control,mean (13.7±6.1)U\ml **(p< 0.05).**

There was a statistically significant difference between SLE patients with lupus nephritis (group Ia & group Ib1) and control group in serum level of anti-C1q antibodies being higher in group Ia & group Ib1 (mean=126.4±100.01 & 27.7±9.1 respectively) than in control (mean=13.7±6.1), **(p<0.05**).

There was a statistically significant positive correlation between Ani-C1q antibody titer and SLEDAI **(p<0.05)**.

There was a statistically significant difference between severe and mild BILAG index as regards to anti C1q Abs titer being higher in severe group (85.5±90.2) than in mild group (25.4±8.1) , **(p < 0.05)**.

There was a statistically significant positive correlation between Ani-C1q antibody titer and Anti-DNA antibodies titer **(p<0.05).**

There was a statistically significant negative correlation between Anti C1q antibody titer and C3&C4 **(p<0.05)**.

There was a statistically significant positive correlation between Ani- C1q antibody titer and activity index of kidney biopsy**(p<0.05).**

There was a statistically significant positive correlation between Ani-C1q antibody titer and protinurea in all study group **(p<0.05).**

There was no statistically significant correlation between anti-C1q Ab titer and clinical manifestations including nenropsychiatric, musculoskeletal, mucocutaneous and serositis except pelurisy (**P> 0.05**).

In conclusion,

This study confirms the previous findings of the association of anti-C1q with nephritis and disease activity in SLE patients. Thus, anti-C1q antibodies can represent a useful tool for diagnosis of lupus nephritis, early predection of renal flare, monitoring disease course and treatment intensification.

Recommendations,

From the results obtained from this study we can recommend that:-

- Serial measurements of anti-C1q antibodies in SLE patients who do not experience nephritis are very important as their level increases months before occurrence of lupus nephritis.

- Measurement of anti-C1q antibodies titers is important in determination of lupus activity especially renal flare.

- Possibility for usage of new agents that can block or interfere with anti-C1q antibodies as a treatment for lupus nephritis as proved that these antibodies have a pathogenic role in lupus nephritis.