SUMMARY

Saprophytic and non-pathogenic streptococci are widely distributed in nature, but some species are pathogens for human being, among of which are, group A, beta-hemalytic streptococci which are common in sore throat of children. This infection is usually of short duration but it always produce delayed acute poststreptococcal glomerulonephritis. Acute post-streptococcal glomerulonephritis (AGN) is a form of acute glomerular injury which is a delayed sequela of infection with certain nephritogenic strains of group A B-hemolytic streptococci. Documentation of streptococcal infection (positive throat culture or elevated titres of antibody to certain extracellular antigens such as stryptolysin O is an important factor for establishing the diagnosis.

The urinalysis usually reveals proteinuria, hematuria, and the presence of red blood cell casts. Hypertension, azotemia, and aliguria are usually mild but may be severe in a small percentage of patients. AGN is generally a non-progressive disease in children leading to complete recovery (Baldwin *et al.*, 1974).

Many morphological, clinical, and serological features suggest that acute poststreptococcal glomerulonephritis (APSGN) is an immune complex disease (Glassock e tal., 1986).

Frequently following the onset of this disease, serum C3 levels are markedly depressed. Discrete deposits of IgG and

1) Streptex test

2) Bacitracin sesnitivity test.

* Urine analysis

- Chemical and serological investigations.

* serum creatinin, creatinin clearance serum electrolytes to evalute kidney function.

* C-creactive protein and A.S.O titre.

* Identification of serum (Igs), complement and CIC.

* HLA tissue typing.

In the present study, throat swabs were taken from 33 cases of acute glomerulonephritis. Beta-hemolytic streptococci were identified by the presence of beta-hemolysis on blood agar plates. The number of beta-hemolytic streptococcal isolates was 7 in all 33 cases. These isolates were grouped by streptex kits, bacetracin sensitivity disks. The number of group A beta-hemolytic streptococci identified by streptex was 7 (100%) of the isolated cases. The number of group A identified by bacitracin disks was 6 out of 7 seven cases (85.7%). From the previous data, it is quite clear that the incidence of group-A beta-hemolytic streptococcal isolates is low. The sensitivity of streptex kits in identificaiton of group A streptococci was striking, but bacitracin disks was less sensitive.

- The antistreptolysin O titre was determined by the latex method. The mean value of antistreptolysin O titre was

higher in cases from which beta-hemolytic streptococci were isolated than in cases from which no beta-hemolytic streptococci were isolated. The mean value of antistreptolysin O titre was (742.86 & 384.62) respectively C-reactive protein, was found to be positive in all cases of acute poststreptococcal glomerulonephritis.

- HLA antigens were typed by using the microlymphocytoxicity tissue typing technique (Bordmer, 1978).

The HLA-B8 is the only antigen in locus B that shows significantly higher frequency compared to controls because its frequency in the patient (42%) is significantly high compared to normal controls (6.5%) and $P<0.001$. Also the relative risk is high and significant (RR = 10.6). Furthermore the contribution of the antigen as measured by etiologic fraction is high 0.684.

Statistical analysis also revealed that the only significant difference of HLA-DR is that between the frequencies of HLA-DR3. The DR3-antigen frequency in the patients (27.3%) compared to that of control (14.9). The RR = 7.14. Furthermore, the test of significance of the RR (total X^2) shows significance RR. $P<0.001$.

- Assays for circulating immune complexes by lazer nephelometry were positive and more than 1.5 mg/dL for every patient which indicated antigen antibody reaction forming the

immune complexes in all patients.

The level of C3 measured by lazer nephelometry was found decreased in 23 out of 33 cases. The means of C3 and C4 levels were consequently the following, 51.838 and 32.65. C3 was present with seven cases having HLA-B8 and decreased in 6 out of these 7 cases while was decreased in 4 out of 6 cases having HLA-DR3 haplotype, and was decreased in all the six cases having HLA B8/DR3. This indicated that there is a great association of both C3 and HLA B8 as well as B8/DR3 haplotypes in APSGN

- Serum levels of IgG were below the normal level in 28 out of 33 cases.

IgG was decreased in seven cases out of eight, having HLA-B8 and with 5 out of 6 having HLA-DR3. This indicates that there is a great association of the IgG and HLA-B8 as well as HLA-DR3 in APSGN.

- In contast, the IgA, was decreased in only one case out of six with B8, two cases out of six with DR3 and three cases out of six with B8 DR3. This indicated that IgA is not associated with any genetic factor in APSGN.

- Also there is insignificant correlation between the levels of IgM and HLA-haplotypes, however the mean of IgM in our patient (301.3) was high than that of control (164.2).