Summary And Conclusion

The post-infectious autoimmune sequelae of GAS infection, acute rheumatic fever (ARF) and acute post-streptococcal glomerulonephritis (APSGN), are the major global causes of GAS- related morbidity and mortality, and pose challenging questions about pathogenesis and control.

An elevated expression of alloantigen D8/17 on B-lymphocytes has been proposed as a susceptibility markers in rheumatic fever and rheumatic heart disease.

Post- streptococcal reactive arthritis is a sterile arthritis associated with antecedent streptococcal infection in patients not fullfilling the jones criteria for acute rheumatic fever.

RF is autoimmune in nature and most likely results in part from the production of auto-reactive antibodies''. They agree with the concept of antigenic mimicry and/or an abnormal immune response to group A streptococcal extracellular or somatic antigens.

This study aimed to study the the frequency of D8/17 on B-lymphocyte as a susceptibility marker in patients with RHD and post-streptococcal arthritis.

The study included Thirty patients (20 patients with rheumatic heart disease and 10 patients with post-streptococcal reactive arthritis) as well as 10 age and sex matched healthy volunteers serving as controls constituted the subjects of this study. Age of patients with RHD ranged from 19 to 69 years while age of patients with PSRA ranged from 12 to 30 years.The patients were recruited from those attending the outpatients clinic and hospital inpatients of Benha University Hospital.

- **All patients were subjected to thorough history taking, clinical examination with stress on the following:**

  1-Major criteria of rheumatic fever.

  2-Minor criteria of rheumatic fever.

  3-Chronic valve lesions of RHD.

  4- Criteria of Post-streptococcal reactive arthritis as mentioned before.

- **The following investigations were done to patients and control subjects:**
  - Echocardiogram.
  - Test for D8/17 and CD19 with flow cytometry assay by using monoclonal antibodies .
  - Titre of ASO and Anti-Dnase were done to PSRA patients.

This study showed the following results:

- There was a non significant difference in age between control and RHD subjects while there was a significant difference between control and PSRA subjects and between RHD and PSRA subjects.
- There was a significant difference in age between PSRA subjects and rheumatic arthritis patients.

- There was a significant difference between females and males with RHD. However there was a non significant difference between females and males of control or PSRA subjects.
- There was a non significant difference between females and males regarding CD19 assay in PSRA subjects.
- There was a non significant difference between females and males regarding D8/17 assay in PSRA subjects.
- There was a non significant difference between females and males regarding CD19&D8/17 in PSRA subjects.
- There was a non significant correlation between CD19 and age in PSRA group while there was a significant positive correlation between CD19 and ASO titre, Anti-Dnase, D8/17and CD19&D8/17 together.
- There was a non significant correlation between D8/17 and age in PSRA group while there was a significant positive correlation between D8/17and ASO titre and with Anti-Dnase.
- There was a non significant correlation between CD19& D8/17 and age.Whereas, there was a significant positive correlation between CD19&D8/17,ASO titre,Anti-Dnase and D8/17 in PSRA subjects. .
- 65% of RHD patients suffered from rheumatic arthritis.

- The prevalence of valvular lesion among RHD patients was mitral stenosis, mitral regurge, aortic stenosis and aortic requrge, in descending order.
- Regarding CD19, there was a non significant difference in pure aortic cases compared to control and pure mitral cases ,While there was a significant difference between control and pure mitral cases.
- Regarding D8/17, there was a non significant difference in pure aortic cases compared to control and pure mitral cases ,While there was a significant difference between control and pure mitral cases.

- There was a non significant difference in cases with pure mitral or pure aortic compared to control regarding CD19&D8/17.
- There was a non significant difference of CD19 assay in RHD group that presented with or without rheumatic arthritis.
- There was a non significant difference of D8/17 assay in RHD group that presented with or without rheumatic arthritis.
- There was a non significant difference of CD19&D8/17 assay in RHD group that presented with or without rheumatic arthritis.
- Statistical analysis of CD19 assay among control, PSRA and RHD groups, showed that there was a significant difference between control and RHD group, there was also a significant difference between control and PSRA group, However there was a non significant difference between PSRA and RHD group.
- There was a significant difference in D8/17 antigen in total lymphocytes between control and RHD group, there was also a significant difference between control and PSRA group ,However there was a non significant difference between PSRA and RHD group.
- There was a significant difference in D8/17 antigen in B-lymphocytes between control and RHD group, there was also a significant difference between control and PSRA group, However there was a non significant difference between PSRA and RHD group.

- There was a non significant difference between PSRA and rheumatic arthritis regarding the percent of expression of CD19-positive cells, D8/17 antigen in total lymphocytes. However, there was a significant difference between PSRA and rheumatic arthritis regarding the percent of expression of D8/17 antigen on B-lymphocytes.

Conclusions:

So, we can conclude that An elevated expression of alloantigen D8/17 on B-lymphocytes is a susceptibility markers for rheumatic fever and rheumalic heart disease**.** The D8/17 antigen is expressed on B-cells of PSRA patients.

Both PSRA and RHD have different clinical presentation although they are late squally of GAS infection.