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Human leukocyte antigen (HLA)-DRB1 in Egyptian patients with rheumatoid arthritis: Association with anti-CCP and rheumatoid factor

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Aim: To identify the prevalence of HLA-DRB1 among Egyptian RA patients and to evaluate the association between HLA-DRB1 and rheumatoid factor (RF) isotypes (IgG, IgM, and IgA), anti-CCP antibodies.

Methods: The study included 150 RA patients and 150 controls. Quantitative Serum, RF IgM, IgG and IgA isotypes and anti-cyclic citrullinated peptide (anti-CCP) antibodies were measured using commercially available ELISA. HLA-DRB1 alleles {HLA-DRB1*01, HLA-DRB1*03 and HLA-DRB1*04}, were determined using the Dynal AllSet™ PCR-SSP low resolution typing kits -Dynal, UK). al, UK).

Results & Conclusion: HLA-DRB1*01 and *04 were associated with RA (OR: 6.1 95% CI: 3.5-10.7 and OR: 4.4 95% CI: 2.6-7.5 respectively). No association was found between HLA-DRB1*03 and RA (OR: 0.6 95% CI: 0.4-0.9). The association of HLA-DRB1*01 and/or HLA-DRB1*04 alleles with positive anti-CCP is stronger than with negative anti-CCP (OR: 12.7 95% CI: 6.3-25.7 and OR: 3.1 95% CI: 1.7-5.6 respectively) and also the association with positive RF isotypes is stronger than with negative RF isotypes compared to controls (OR:8.2, 95% CI:4.5-14.5 for positive RF IgG and OR: 2.55 95% CI: 1.2-5.5 for negative RF IgG; OR: 7.8 95% CI:4.3-14.1 for positive RF IgM and OR:4.0 95% CI: 2.1-7.8 for negative RF IgM; OR: 9.2 95% CI:4.8-17.8 for positive RF IgA and OR: 4.1 95% CI:2.2-7.4 for negative RF IgA). HLA-DRB1*01 and HLA-DRB1*04 are associated with Egyptian RA patients and carriers of HLA DRB1 *01 and/or *04 alleles are at higher risk of developing anti-CCP positive and RF positive RA than non-carriers.

Biography

Sherif Mohamed Ismail is a Research Physician working in clinical research in the field of Rheumatology at Internal Medicine Department of the Medical Sciences division at National Research Center of Egypt. His work mainly focused on genetic and epigenetic markers and connections to rheumatic diseases and their pathogenesis, working as a part of a team of researchers at the National Research Center of different specialties including the clinical pathology and molecular biology departments. He and his team hope that progressive research will help a better understanding and management of rheumatic disorders in the near future.

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