

ARTICLE 1

Background: Intercellular adhesion molecule-1 (ICAM-1) gene polymorphisms have been implicated in the susceptibility to inflammatory diseases. Our aim is to investigate the E469K genetic variant in the ICAM-1 gene in rheumatoid arthritis Egyptian patients. Subjects & Methods: The polymorphism K469E in ICAM-1, was investigated in 40 patients with rheumatoid arthritis and 40 control subjects using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) analysis and is correlated with disease duration, RF, ESR, CRP, anti-CCP, anti-MCV, erosion and DAS28 score. Results: The mutant homozygous (EE) genotype of ICAM-1 (K469E) was significantly higher in RA patients than controls. The E allelic frequency was found to be significantly higher in RA patients than controls. Seropositive patients for both RF and anti CCP show high percentage of EE genotype, while seronegative patients show high percentage of KK genotype. Erosion also was found to be associated with the mutant EE genotype. CRP negative cases have high percentage of KK genotype and CRP positive cases show high percentage of both EE and EK genotype. ESR, DAS28, CRP, anti MCV, and anti CCP show high mean among EE genotype, followed by EK genotypes and the lowest level were found among patients with KK genotype. Conclusion: We concluded that there is a strong association between ICAM-1 (K469E) polymorphism genotyping and rheumatoid arthritis and this polymorphism is associated with high ESR, DAS28, CRP, anti MCV, and anti CCP and erosion but not with disease duration