Association between miR-155, its polymorphism and ischaemia-modified albumin in patients with rheumatoid arthritis.

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Abstract

Rheumatoid arthritis (RA) is a chronic immune-mediated inflammatory disease. We aimed to measure the level of miR-155 and its genetic variant rs767649 in patients with RA and to evaluate their relationship with ischemia-modified albumin (IMA). The study was performed on 79 patients with RA (group I) and 78 healthy control participants (group II). Quantitative real-time polymerase chain reaction was used to assess the expression of serum miR-155 in addition to its functional variant rs767649. IMA levels were measured by enzyme-linked immunosorbent assay. Significant overexpression of miR-155 and higher levels of IMA were detected in patients with RA compared with those in controls ($P<0.0001$). The fold change in miR-155 was significantly positively associated with IMA ($r=0.362$, $P=0.001$) in patients with RA. Significant differences in the frequency of miR-155 (rs767649) genotypes and alleles were noted between patients with RA and controls. MiR-155 and IMA levels were significantly associated with the genotype distribution of miR-155 (rs767649) in patients with RA and were higher in patients with the TT genotype. MiR-155 and its functional variant rs767649 might play an important role in susceptibility to the increased risk of RA, stressing the role of miR155 as a therapeutic target in the treatment of RA. In addition, IMA levels were increased and correlated with miR-155 and its single nucleotide polymorphism rs767649 in Egyptian patients with RA.