

## **Pro-inflammatory and anti-inflammatory cytokines profile in rheumatoid arthritis patients**

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**Rheumatoid arthritis (RA) is a chronic autoimmune disease characterized by severe joint deformities due to bony erosions and tendon damage. Cytokines are protein mediators of inflammation and are produced as a result of the activation of various cellular reactions. They are the final mediators and/or regulators of the inflammatory process. Cytokines such as TNF-alpha and IL-6, play key roles in driving the inflammation and synovial cell proliferation that characterize rheumatoid arthritis and joint destruction. Sera from 58 RA patients were analyzed for TNF-alpha, IL-6, IL-10, TGF-beta, sTNF-R 1 and sTNF-R2 using ELISA. The proinflammatory cytokines TNF-alpha and IL-6 were significantly elevated in RA patients, while TGF-beta, an immunomodulatory cytokine, was elevated in control individuals. Assays of TNF receptors, sTNF-R1 and sTNF-R2, were noted to be significantly elevated in RA patients when compared to control. Our data indicate that local production of cytokine inhibitors is capable of diminishing cytokine and disease activity thereby may improve signs, symptoms and quality of life for patients with RA.**