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[PubMed Central](#) 1: [Clin Exp Rheumatol.](#) 2001 Jan-Feb;19(1):81-4.[Related Articles, Links](#)**Changes in systemic levels of insulin-like growth factors and their binding proteins in patients with rheumatoid arthritis.**[Neidel J.](#)Klinik fur Orthopadie, Charite University Hospital, Schumannstrasse 20, D-10117 Berlin, Germany. [jasper.neidel@charite.de](mailto:jasper.neidel@charite.de)

**OBJECTIVE:** To determine whether circulating levels of insulin-like growth factors and their binding proteins are altered in patients with adult onset rheumatoid arthritis.

**METHODS:** Plasma-levels of insulin-like growth factor-I (IGF-I), IGF-II, IGF-binding-protein 2 (IGFBP-2), and IGFBP-3 were measured by radioimmunoassay in 53 patients with clinically active rheumatoid arthritis (RA) and in 51 control subjects. **RESULTS:** In RA patients plasma levels of IGF-II were lower (601 +/- 34 vs. 731 +/- 32 micrograms/L (mean +/- SEM); p = 0.005; Mann-Whitney rank sum test) than in age- and sex-matched controls (n = 30 per group). In contrast, plasma levels of IGFBP-2 (412 +/- 40 vs. 254 +/- 20 micrograms/L; p = 0.003) and IGFBP-3 were elevated in RA patients (3.34 +/- 0.19 vs. 2.87 +/- 0.21 mg/L; p = 0.019) as compared with the matched controls. The molar ratio of IGF-I to IGFBP-3 was significantly reduced in subjects with RA (0.18 +/- 0.01 vs. 0.24 +/- 0.02; p = 0.008). Furthermore, in RA patients plasma levels of IGFBP-2 were positively (r = 0.45), and levels of IGF-2 negatively (r = -0.45) correlated with circulating levels of C-reactive protein (p < 0.01 in both cases; Spearman rank correlation).

**CONCLUSION:** Increased levels of IGFBPs in RA may result in the reduced availability of free IGFs that can bind to IGF receptors. The observed changes in the IGF system may thus participate in the catabolic processes in rheumatoid arthritis.

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