

The association between serum levels of growth differentiation factor-15 and rheumatoid arthritis activity

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Abstract

Background: Macrophages play a crucial role in the pathogenesis of rheumatoid arthritis (RA). Growth differentiation factor-15 (GDF-15) acts as an autocrine regulator of macrophage activation. Objective: The aim of this study was to assess serum level of GDF-15 as a potential biomarker for detecting RA activity. Method: A total of 100 female RA patients and 55 age matched healthy control females were enrolled. The serum level of GDF-15 was measured using enzyme-linked immunosorbent assay by an eBioscience kit. Results: Serum levels of GDF-15 in RA patients with high, moderate, low and no disease activity were 989.0 ± 161.9 , 505.6 ± 220.5 , 349.2 ± 155.9 and 349.0 ± 144.0 pg/ml, respectively. GDF-15 with a cut-off value higher than 705 pg/ml was indicative of high RA activity with sensitivity of 96% and specificity of 92%. Conclusion: GDF-15 serum levels may be used as a biomarker to predict high RA disease activity.

Title page

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Running title: GDF-15 in rheumatoid arthritis

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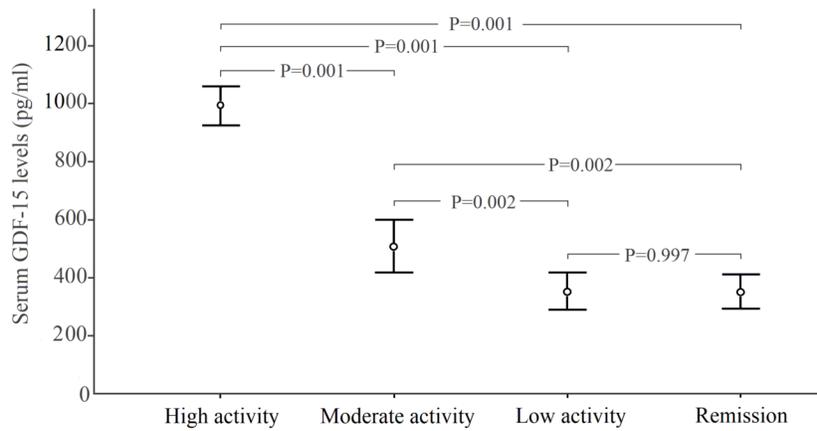
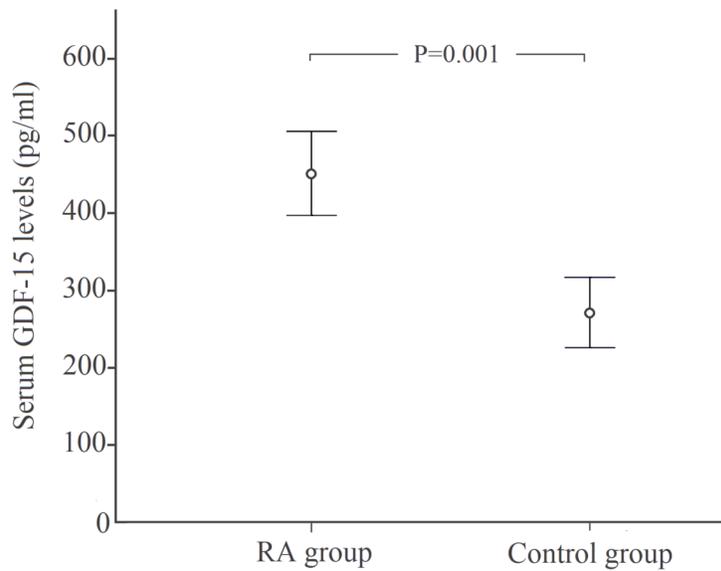
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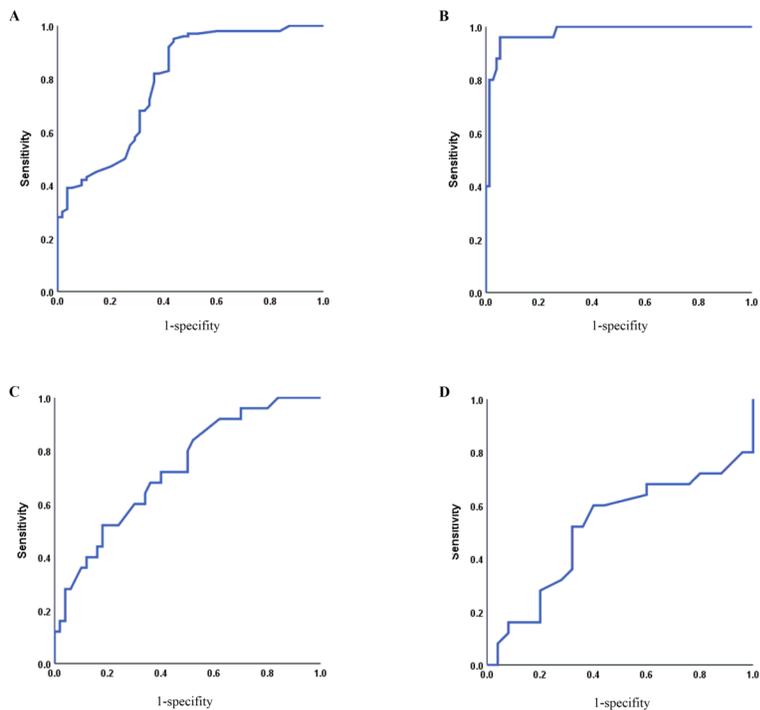
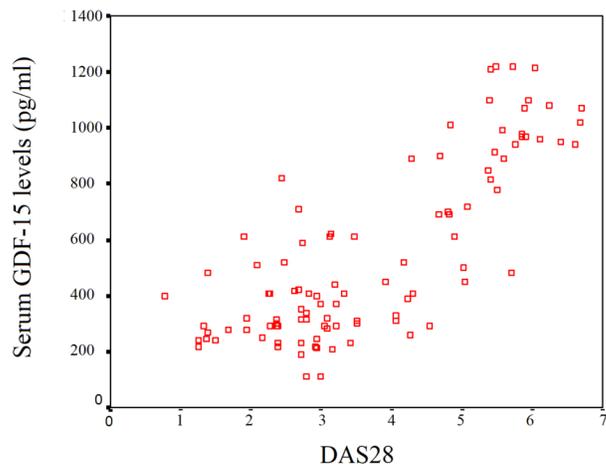
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