

Urinary Orosomucoid - 2 and Soluble CD14 as Potential Biomarkers for Assessment of Disease Activity in Rheumatoid Arthritis

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Rheumatoid arthritis (RA) is the most common inflammatory joint disease leading to severe disability and premature mortality. Current blood biomarkers for assessing RA activity are invasive and are not highly sensitive or specific to changes in disease activity. Therefore, there is a need for new biomarkers that can accurately indicate disease activity. The present study evaluated the use of urinary orosomucoid (ORM) - 2 and soluble CD14 (sCD14) as non-invasive biomarkers for precise assessment of disease activity of RA, in order to improve treatment outcomes in RA patients. The study included 36 female patients with RA, were divided into three groups of mild, moderate and severe disease activity according to disease activity score 28 (DAS 28) based on erythrocyte sedimentation rate (ESR) and were compared to control group. Urinary levels of ORM-2 and sCD14 were measured by ELISA. All patients showed significant increase in urinary ORM-2 and sCD14 levels in comparison to controls. There were significant positive correlations of urinary ORM-2 and sCD14 levels with DAS28score and also with the conventional blood biomarkers (C-reactive protein (CRP) and ESR). The receiver operating characteristic curve analysis revealed that both urinary ORM-2 and sCD14 have higher predictive value for disease activity than CRP and ESR. In conclusion, Urinary ORM-2 and sCD14 levels were increased in patients with RA and were correlated with the disease activity. Thus, the urinary biomarkers might be able to replace blood measures for RA activity as they could provide non-invasive and precise assessment of disease activity in RA patients.