Biomarkers to Distinguish Between RA and OA Patients

SCIENCE
Abstracts

Key Take-Away:

Recently, many studies have reported new biomarkers to identify RA, for example, osteoprotegerin (OPG), osteocalcin (OCN) and osteopontin (OPN). This study revealed that the plasma/serum OPG, OCN and OPN levels were almost similar in RA and OA patients. Hence, it may stipulate that race may correlate with OPG, OCN and OPN levels in rheumatoid arthritis (RA) patients. Also, the expression of OPN in RA patients was significantly higher than in OA patients.

Introduction:

Presently published data considering the potential role of OPG, OCN and OPN to distinguish between RA and OA are contradictory. To derive a more precise evaluation, this meta-analysis was performed.

Methods:

Published pieces of literature comparing plasma/serum OPG, OCN and OPN levels between RA group and OA controls were searched in PubMed, Embase and the Cochrane Library. Newcastle-Ottawa Scale estimated the study quality. Pooled standard mean difference (SMD) with 95% confidence interval (CI) was calculated using the random-effect model analysis. The Heterogeneity test was performed by the Q statistic and quantified using I2.

Results:

Nine studies, including 438 RA patients and 255 OA patients were included in the meta-analysis after examining the title, type, abstracts and full text. The results showed that RA patients had higher plasma/serum OPN (pooled SMD = -2.57, 95% CI = -4.72 to -0.41) levels when compared to OA patients. No significant difference in plasma/serum OPG (pooled SMD = -0.29, 95% CI = -1.07–0.49) and OCN (pooled SMD = -0.09, 95% CI = -0.48–0.31) levels were found between RA and OA patients. Subgroup analysis indicated that plasma/serum OPG levels had no significant differences between RA patients and OA patients in Europe and Asia.

Conclusions:

Overall, there is no significant difference in circulating OPG and OCN levels between RA patients and OA patients. However, plasma/serum OPN level is significantly higher in RA patients compared with OA patients.

Source

Immunol Invest

Link:  https://www.ncbi.nlm.nih.gov/pubmed/30188218
Original title of article: Circulating Levels of Osteoprotegerin, Osteocalcin and Osteopontin in Patients with Rheumatoid Arthritis: A Systematic Review and Meta-Analysis

Authors: Liu LN et al.

Exploratory, Osteoprotegerin (OPG), Osteocalcin (OCN), Osteopontin (OPN), Rheumatoid arthritis (RA), Osteoarthritis (OA), Systematic Review, Meta-Analysis, Newcastle-Ottawa Scale