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Examining the genetic overlap of rheumatoid arthritis and cardiovascular disease

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Abstract

In this text we assess the amount of overlap in genetics of rheumatoid arthritis (RA) and cardiovascular disease (CVD). We use summary statistic data from genome-wide association studies for RA and acute myocardial infarction (AMI), using AMI to represent CVDs in general. Genetic overlap is measured as a correlation coefficient on the genetic part of the two traits, obtained through the implementation of linkage disequilibrium score regression. No significant genetic correlation was found between RA and AMI, indicating that little to no genetic overlap exists between the two traits, agreeing with a lone previous result. While power was not an issue in this study, a greater sample size for RA could hopefully shrink standard errors and give more precise estimates. Additionally, using only AMI as a proxy for CVDs in general might be naive and different results may be found for other CVD-phenotypes.

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