The causal role of immune cells in coronary heart disease: a Mendelian randomization study

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Abstract

Objective: Use Mendelian randomization (MR) method to evaluate the causal relationship between immune cells and asthma.

Methods: Based on the summary statistical data obtained from immune cell GWAS (gene wide association studies) research, genetic variation points were screened as instrumental variables (IVS). Inverse variance weighted (IVW), Weighted median, MR-Egger regression, Simple mode and Weighted mode were used for two sample Mendelian randomization (MR) analysis. Sensitivity analysis was used to test the heterogeneity, horizontal pleiotropy and stability of the results. Results: IVW results showed that B cell AC, CD8dim NK T %lymphocyte, CD20 on sw mem, CD28- CD8br AC, CD28 on CD39+ CD4+, CD34 on HSC, CD38 on naive-mature B cell, HLA DR+ T cell AC, IgD- CD24- %lymphocyte, IgD+ CD38dim %B cell may be the risk factors of CHD, BAFF-R on CD20- , CD28- CD25++ CD8br %CD8br, CD28- DN (CD4-CD8-) AC, CM DN (CD4-CD8-) %DN may be a protective factor for CHD. Conclusion: This study explored the causal relationship between immune cells and CHD, and screened out immune cells related to CHD. These immune cells may become new biomarkers or therapeutic targets, provide new treatment ideas for the prevention and treatment of CHD, and promote the understanding of CHD.

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