عنوان مقاله:

Red Blood Cell-Conditioned Media from Non-Alcoholic Fatty Liver Disease Patients Contain Increased MCP۱ and Induce TNF-α Release

محل انتشار:

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خلاصه مقاله:

Background: Non-alcoholic fatty liver disease (NAFLD) constitutes a global pandemic. An intricate network among cytokines and lipids possesses a central role in NAFLD pathogenesis. Red blood cells comprise an important source of both cytokines and signaling lipids and have an important role in molecular crosstalk during immunometabolic deregulation. However, their role in NAFLD has not been thoroughly investigated. Methods: Conditioned media from erythrocytes derived from ۱۰ NAFLD patients (۴ men, ۶ women, aged ۵۷.۸۷۵±۱۵.۱۶) and ۱۰ healthy controls (۴ men, ۶ women, aged ۳۹.۳±۱۵.۵۵) was analyzed for the cytokines IFN-γ, TNF-α, CCL۲, CCL۵, IL-۸, IL-۱β, IL-۱۲p۴۰, IL-۱۷, MIP-۱β, the signaling lipids sphingosine-۱-phosphate (S۱P) and lysophosphatidic acid (LPA), and cholesterol. Their effect on the cytokine profile released by RAW ۲۶۴.۷ macrophages was also studied. Results: MCP۱ levels were greater in conditioned growth medium from NAFLD patient erythrocytes than in that from healthy controls (۳۷±۴۰ vs ۶.۵۱±۵.۶۳ pg/ml). No statistically significant differences were found between patients and healthy controls with regard to S۱P, LPA, cholesterol, or eight other cytokines. TNFa release by RAW ۲۶۴.۷ cells was greater after incubation with patient-derived erythrocyte-conditioned medium than in medium without RAW ۲۶۴.۷ cells from either healthy or NAFLD subjects. Conclusions: Erythrocytes may contribute to liver infiltration by monocytes, and macrophage activation, partially due to CCL۲ release, in the context of NAFLD.

کلمات کلیدی:

Cytokines, Erythrocytes, Lipids, Non-alcoholic fatty liver disease, Signaling.