عنوان مقاله:

Receptor for advanced glycation end products involved in circulating endothelial cells release from human coronary endothelial cells induced by C-reactive protein

محل انتشار:

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خلاصه مقاله:

Objective(s): This study was designed to investigate the effect of receptor for advanced glycation end products (RAGE), S۱۰۰A۱۲ and C-reactive protein (CRP) on the release of circulating endothelial cells (CECs) from human coronary artery endothelial cells (HCAECs). Materials and Methods: HCAECs were cultured in increasing concentration of CRP (۰, ۱۲.۵, ۲۵, ۵۰μg/ml) or S۱۰۰A۱۲ protein (۰, ۴, ۱۰, ۲۵μg/ml) for ۲۴ hr. CECs were measured by flow cytometry. Small interfering RNA (siRNA) was designed to decrease RAGE level. Fluorescence microscopy and real-time quantitative polymerase chain reaction were used to assess the efficiency of siRNA silencing RAGE. The release of CECs from HCAECs was further evaluated by flow cytometry. Results: CRP caused a significant increase in the release of CECs from HCAECs. The number of CECs increased by about ۲-fold in ۲۵ μg/ml CRP-treated group compared to the control group (۱۲.۲۲% compared to ۶.۸۲%, P=۰.۰۳۲). But S۱۰۰A۱۲ failed to increase the release of CECs from HCAECs. Blockade of RAGE by siRNA significantly decreased the release of CECs induced by CRP (۱۳.۲۲% of CRP group compared to ۸.۷۷% of CRP+siRNA group, P=۰.۰۱۷). Conclusion:RAGE is involved in the release of CECs induced by CRP, and the effect can be attenuated by silencing RAGE. RAGE may play an important role in endothelial dysfunction in cardiovascular disease. Inhibition of RAGE may be a therapeutic target for coronary artery lesions in Kawasaki disease.

کلمات کلیدی:

CECs, CRP, HCAECs, RAGE, S۱۰۰A۱۲