URTICARIA, ANGIOEDEMA

EFFECT OF YKL-40 ON PERMEABILITY OF HUMAN DERMAL MICROVASCULAR ENDOTHELIAL CELLS

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Introduction: YKL-40 is an inflammatory protein, an abnormal expression in many human diseases. Studies show that the expression of YKL-40 in coronary artery disease, diabetes, psoriasis and other endothelial inflammatory diseases increased, hinting that it may be a potential biomarker of endothelial dysfunction.

Objective: To investigate the effect of YKL-40 on permeability of human dermal microvascular endothelial cells (HDMECs).

Methods: HDMECs cells cultured in DMEM medium containing 10 % bovine serum. The experiment is divided into eight groups, which respectively are blank control group, histamine (100 cabin M) group, YKL40 (10ng/ml) group, YKL40 (100ng/ml) group, YKL40 (500ng/ml) group, YKL40 (10ng/ml) plus histamine group, YKL40 (100ng/ml) plus histamine group and YKL40 (500ng/ml) plus histamine group. Method of CCK8 is adopted to detect the effect of each treatment group on HDMECs cell vitality. Method of Transwell is adopted to detect the effect of each treatment group on HDMECs cell permeability.

Results: The results of CCK8 test showed that the histamine group, different concentrations YKL40 groups, and histamine plus different concentrations YKL40 groups have no significant effect on the cell viability of HDMECs ($p>0.05$). The results of Transwell test showed that, compared to the blank group, the permeability of HDMECs was significantly increased in the histamine treatment group and the different concentrations YKL40 group, but there is no significant difference in different concentrations YKL40 group ($p>0.05$). Compared with the histamine group, the permeability of HDMECs was significantly increased in the histamine plus YKL40 (500ng/ml) group ($p<0.05$).

Conclusion: The permeability of HDMECs is not significantly changed by YKL-40 acting alone, however, synergistic effect of YKL-40 and histamine can increase histamine-induced permeability changes of HDMECs.