ABSTRACT

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Title of diploma thesis: Effect of soluble endoglin to endothelial cells in vitro

Aim:

We determined the effects of soluble endoglin on endothelial cells, by the means of inflammatory markers. The aim of the study was to point out the possible association of the soluble endoglin with endothelial dysfunction.

Methods:

For our study we have selected the human endothelial cells from umbilical vein - HUVEC. We have influenced the cells with soluble endoglin in two concentrations and at two different time intervals. The results were evaluated in the statistical program, in which we have compared the control group with influenced cells and two concentrations between each other. The expressions of inflammatory markers were analyzed on the level of mRNA, using the real-time PCR method.

Results:

Significant changes in the expression of markers were observed on the vascular and intracellular adhesion molecule at both concentrations compared to the control group. Increased values of transcription were available also for cyclooxygenase 2 and decreased values for cadherin 5 compared to the control group.

Conclusion:

Changes in expression of endothelial dysfunction markers are leading us to the possible influence of soluble endoglin on endothelial cells, and thus to the assumption, that it affects the function of the endothelium. Further methodical approaches are necessary to be carried out on this issue.