ABSTRACT

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Title of Diploma Thesis: Study of membrane endoglin expression in cardiovascular system I

Background: We observed changes in the expression of endoglin in aorta and in soluble endoglin levels in blood in the apoE$^{-/-}$/LDLr$^{-/-}$ deficient two-month and eight-month old mice of C57BL/6J strain after administration of chow diet.

Methods: We used the group of two-month and eight-month old apoE$^{-/-}$/LDLr$^{-/-}$ deficient mice of C57BL/6J strain, which were fed by standard chow diet. We performed immunohistochemical staining of aortic cuts of these mice and through ELISA analysis we were determined blood levels of soluble endoglin.

Results: Endoglin expression was clearly visible on aortic endothelium with advanced atherosclerotic plaques. However, we did not observe significant differences in the staining pattern and intensity of the staining between two-month and eight-month old group of mice. Surprisingly, in both groups of mice we also found aortas without atherosclerotic changes. We did not observe significant changes in blood levels of soluble endoglin between two-month and eight-month old group of mice.

Conclusions: The results of immunohistochemical analysis suggest that after administration of standard chow diet to apoE$^{-/-}$/LDLr$^{-/-}$ deficient mice despite their aging the progression of atherosclerosis were not so severe in order to affect aortic endoglin expression in aorta.

Keywords: atherosclerosis, endothelial dysfunction, soluble endoglin