

## **Abstract**

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P-selectin expression in brachiocephalic artery during atherogenesis

Diploma thesis

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Background: We studied the expression of P-selectin in brachiocephalic artery in the apoE<sup>-/-</sup>/LDLr<sup>-/-</sup> deficient mice, which were fed with the low carbohydrate, high protein diet.

Methods: For this study we used the female apoE<sup>-/-</sup>/LDLr<sup>-/-</sup> deficient mice, which were divided into two groups, 6 mice in each group. Control mice were fed with AIN-93G diet (control group) and the second group was fed by low carbohydrate, high protein diet for 8 weeks. Immunohistochemical analysis was performed in tissue sections of brachiocephalic artery by avidin-biotin complex method with DAB detection.

Results: Biochemical analysis revealed significantly increased levels of total cholesterol after feeding with low carbohydrate, high protein diet. Immunohistochemical analysis detected P-selectin expression only in endothelial cells, with more intensity in endothelial cells covering atherosclerotic plaques in both groups apoE<sup>-/-</sup>/LDLr<sup>-/-</sup> deficient mice. Atherosclerotic plaques were found in all mice in LCHP group. In control group, there were few mice without plaques. However, the staining intensity and pattern of P-selectin was very similar between both groups.

Conclusions: In blood of mice, which were fed with low carbohydrate, high protein diet, we found increased plasma levels of cholesterol, but immunohistochemical analysis by avidin-biotin complex method did not reveal significant differences in P-selectin expression between both groups.